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CEYLON

PART IV—EDUCATION, SCIENCE AND ART (B)

Administration Report of the Director of Medical and Sanitary Services for 1949

(*Dr. W. G. WICKREMESINGHE, O.B.E.*)

DECEMBER, 1950

BUREAU OF HYGIENE & TROPICAL DISEASES
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INTRODUCTION

JUDGED by the universally accepted standards the Health Services of Ceylon have made satisfactory progress during 1949. In a review of the Administration Report for 1948 by the Division of International Health of the Federal Security Agency of the U. S. A. the phenomenal reduction of the Mortality Rates in this tropical country was referred to " as an event without precedent in the annals of world demography and worthy of the very special attention of all Public Health workers ".

It is gratifying to record that in 1949 there has been a further reduction in the Mortality figures.

The General Death Rate is 12.6 per 1,000 population, the Infant Mortality Rate 87 and the Maternal Mortality Rate 6.5 per 1,000 births. These are the lowest recorded for this country and compares more than favourably with any other Eastern Country. It is also well to note that these rates are computed by the Registrar-General and are based on reliable data collected by officers of his Department. These rates tally very closely with the figures collected and computed independently by the officers of the Department of Medical and Sanitary Services.

In spite of the sustained improvement in the health services there has been a persistent agitation for more and better health services for the people.

The efforts of the Department to meet these demands are reflected in the increasing financial outlay on the health services, the larger number of medical personnel engaged and the large-scale building programme in hand.

The expenditure has increased by over 6 million rupees over the previous year and is nearly 6 times what it was in 1931—32 when the Donoughmore Constitution, with internal self-government, was inaugurated.

The medical and nursing staffs have been increased during the year by 24 doctors and 176 nurses. The Department has absorbed all the doctors and nurses who have qualified during the year.

In addition it has supplemented the medical staff by the recruitment of 8 Viennese Specialists for work in Colombo and in the Provinces in the following specialized subjects :—

E. N. T.	2
General Surgery	1
Ophthalmology	1
Urology	1
Neuropsychiatry	1
Physiotherapy	1
Bacteriology	1

Five American Sisters from the Foreign Missions of the Order of St. Dominic arrived in the Island and assumed duties at Kandy.

The new features introduced during the year in the Medical Care programme consist of the establishment of a Department of Physiotherapy, the provision of a Neuropsychiatry Ward at the General Hospital, the establishment of an E. N. T. Unit in Jaffna and the expansion of the Orthopaedic Department at the General Hospital.

The building programme aims at improving and enlarging the Provincial and larger District Hospitals and the provision of Central Dispensaries and Maternity Homes in the rural areas.

Already the majority of the Provincial Hospitals provide specialist services in Medicine, Surgery, Ophthalmology, Dentistry and Tuberculosis and it is hoped, as soon as the specialist officers in training abroad return, to develop the Provincial Hospitals further to provide specialist services in Obstetrics and Gynaecology, E. N. T. and V. D.

The special equipment secured for the Department includes 25 Ambulances, 3 X-Ray Units and one Mass Radiography Unit. There is now a total of 43 Ambulances and 31 X-Ray Units provided for the Department.

The new features introduced in preventive medicine are the inauguration of a B. C. G. Campaign and an intensification of the Anti-Filariasis Campaign.

With the control of Malaria, Tuberculosis and Filariasis have assumed considerable importance and intensive measures are being carried out in regard to both these diseases.

In the international field Ceylon participated in the General Assembly of the W. H. O. at Rome and in the Regional Committee Meeting in Delhi. Joint projects by W. H. O. and the Department have been planned in connection with T. B., V. D., Malaria, Filariasis and Nutrition and preliminary work on them has already been started. Ceylon also received assistance from U. N. I. C. E. F. and I. T. C.

Dr. H. E. Schokman, Assistant Director of Medical Services, retired on 3rd April, 1949, after 37 years of service. The other officers who retired during the year were:

Dr. A. Nimalasuria
Dr. G. V. F. Vaidyakularatne
Dr. F. P. Perera
Dr. C. Guruswamy
Dr. V. Doraiswamy
Dr. E. T. Sarawanamuttu
Dr. (Miss) D. C. Wallace
Dr. A. W. Rasiah.

I should like to place on record the assistance I have received in the compilation of this report from the heads of the various divisions, the Medical Statistician, the Publicity Officer and the Stenographers.

I—ADMINISTRATION

There has been no major change in the administrative set up of the Department since the presentation of the previous year's report. The headquarter staff has however been strengthened by the addition of two Medical Officers and one Medical Officer of Health. The latter officer deals solely with International Health. This work has assumed considerable proportions since the establishment of the South-East Asia Regional Committee of WHO. Of the two new Medical Officers at Headquarters, one is for work in connection with Drugs, Equipment, Ambulances, complaints from Rural Hospitals and matters relating to minor employees, and the other for work regarding contracts, pensions of minor staff, leave records, telephones and repairs to buildings.

In addition to the Medical and non-Medical Staff officers referred to in the organization chart for Headquarter Staff (vide Chart I) there are 235 Clerical officers including three Stenographers and one Dictaphone Operator as well as 39 minor staff consisting of peons, orderlies, and labourers.

The chief problem with which the adminstration is faced is the acute lack of accommodation. A portion of the Financial Branch has been transferred to rented quarters in the G. O. H. Building. It has not relieved the congestion substantially but has added materially to the difficulties of the accounting section. With the expansion of the staff the accommodation available for the canteen is totally inadequate. Every possible avenue has been explored but there does not appear to be any likelihood of obtaining the extra accommodation required in the near future.

The Treasury has approved our proposal to transfer medical records to punched cards and has agreed to make financial provision for the punching machines, cards and operators. No application for a sorting machine was made as there is no place to instal it. It is hoped that we shall be able to use temporarily one of the Government Sorting machines that has been installed until we secure our own machines.

The new post of Librarian asked for has also been allowed.

The Hospital Secretaries' Scheme which was started in 1943 was expanded during the current year by the provision of 9 additional posts.

The administration of the Civil Medical Stores has presented many difficulties chiefly due to the lack of adequate staff and accommodation. It has not been possible to fill the vacant post of Superintendent of the Civil Medical Stores in spite of the fact that a search for a suitable officer was made outside Ceylon.

On the Medical as well as the Health side there is an acute shortage of Medical Officers, Apothecaries, and Nurses. The scheme for the establishment of a Second Nurses' Training School in Colombo and a new school in Kandy has been approved. The new project in Colombo will be conducted in association with the University of Ceylon and will be confined to the training of Graduate Nurses who will supply the needs of the higher grades of the Nursing Service in the future.

The policy of getting all Medical Officers on the Curative Side to work for a limited period of two or three years on the Health Side, after a short course of training in public health work, has belied the expectations that while supplying a cadre of subsidiary health officers it will afford an opportunity to all curative officers to have a practical appreciation of preventive work.

The Minister of Health and Local Government has decided therefore that in future a certain proportion of the medical officers available for Government Service should be recruited permanently for health work. As all medical officers whether on the curative or preventive side have to spend a minimum internship period of 12 months no officers have become available yet for training for the D. T. M. & H. Course prior to an assignment on the Health Side.

CHART I

MEDICAL AND SANITARY SERVICES

HEAD QUARTER STAFF

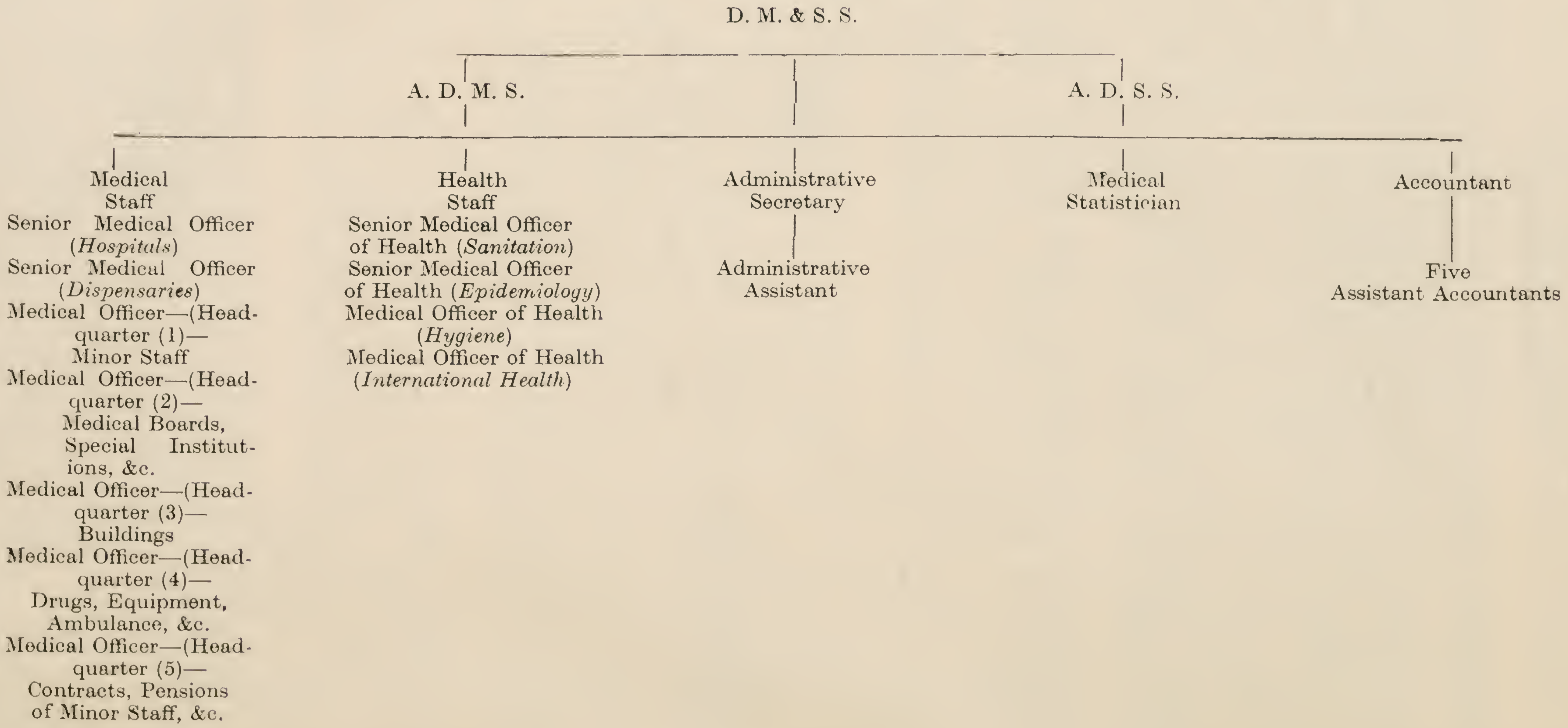
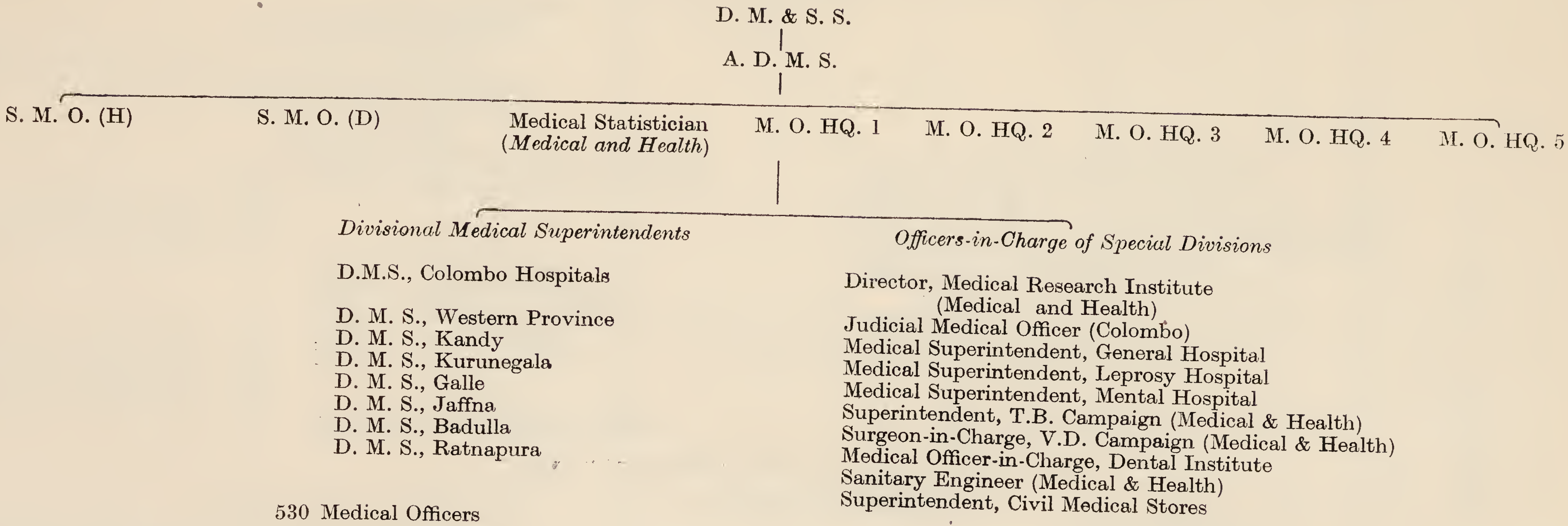

D. M. & S. S.
A. D. M. S.
A. D. S. S.
Medical Staff
Senior Medical Officer (*Hospitals*)
Senior Medical Officer (*Dispensaries*)
Medical Officer—(Head-quarter (1)— Minor Staff
Medical Officer—(Head-quarter (2)— Medical Boards, Special Institutions, &c.
Medical Officer—(Head-quarter (3)— Buildings
Medical Officer—(Head-quarter (4)— Drugs, Equipment, Ambulance, &c.
Medical Officer—(Head-quarter (5)— Contracts, Pensions of Minor Staff, &c.
Health Staff
Senior Medical Officer of Health (*Sanitation*)
Senior Medical Officer of Health (*Epidemiology*)
Medical Officer of Health (*Hygiene*)
Medical Officer of Health (*International Health*)
Administrative Secretary
Administrative Assistant
Medical Statistician
Accountant
Five Assistant Accountants

CHART II



D. M. & S. S.

A. D. M. S.

S. M. O. (H)

S. M. O. (D)

Medical Statistician
(*Medical and Health*)

M. O. HQ. 1

M. O. HQ. 2

M. O. HQ. 3

M. O. HQ. 4

M. O. HQ. 5

Divisional Medical Superintendents

D.M.S., Colombo Hospitals

D. M. S., Western Province
D. M. S., Kandy
D. M. S., Kurunegala
D. M. S., Galle
D. M. S., Jaffna
D. M. S., Badulla
D. M. S., Ratnapura

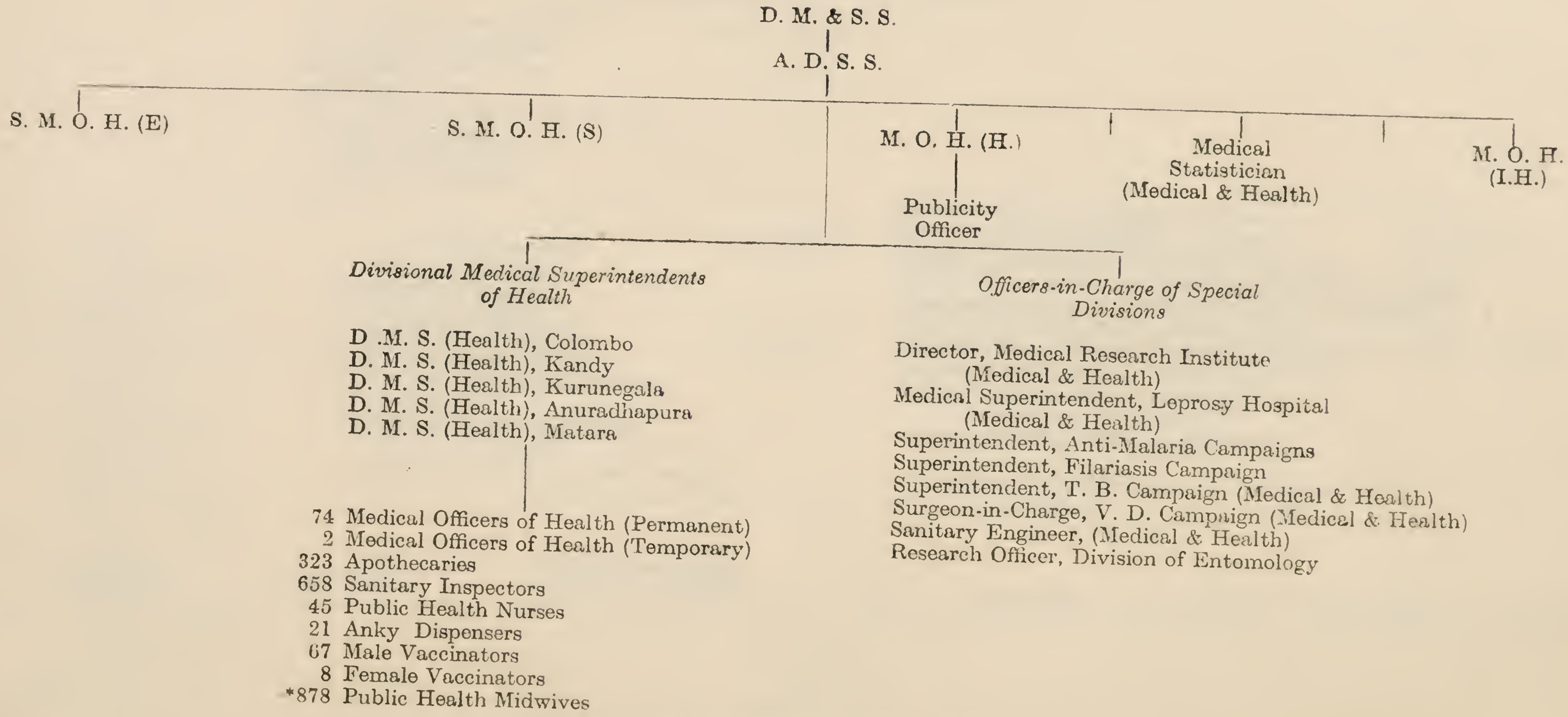
Officers-in-Charge of Special Divisions

Director, Medical Research Institute
(Medical and Health)
Judicial Medical Officer (Colombo)
Medical Superintendent, General Hospital
Medical Superintendent, Leprosy Hospital
Medical Superintendent, Mental Hospital
Superintendent, T.B. Campaign (Medical & Health)
Surgeon-in-Charge, V.D. Campaign (Medical & Health)
Medical Officer-in-Charge, Dental Institute
Sanitary Engineer (Medical & Health)
Superintendent, Civil Medical Stores

530	Medical Officers
18	Dental Surgeons
330	Apothecaries
1,079	Matrons, Sisters and Nurses
*317	Midwives
2,490	Male Attendants
2,160	Female Attendants
5,477	Other Minor Employees

* Excludes Midwives in Maternity Homes.

CHART III


D. M. & S. S.
A. D. S. S.
S. M. O. H. (E)
S. M. O. H. (S)
M. O. H. (H.)
Publicity Officer
Medical Statistician (Medical & Health)
M. O. H. (I.H.)
Divisional Medical Superintendents of Health
D .M. S. (Health), Colombo
D. M. S. (Health), Kandy
D. M. S. (Health), Kurunegala
D. M. S. (Health), Anuradhapura
D. M. S. (Health), Matara
74 Medical Officers of Health (Permanent)
2 Medical Officers of Health (Temporary)
323 Apothecaries
658 Sanitary Inspectors
45 Public Health Nurses
21 Anky Dispensers
67 Male Vaccinators
8 Female Vaccinators
*878 Public Health Midwives
Officers-in-Charge of Special Divisions
Director, Medical Research Institute (Medical & Health)
Medical Superintendent, Leprosy Hospital (Medical & Health)
Superintendent, Anti-Malaria Campaigns
Superintendent, Filariasis Campaign
Superintendent, T. B. Campaign (Medical & Health)
Surgeon-in-Charge, V. D. Campaign (Medical & Health)
Sanitary Engineer, (Medical & Health)
Research Officer, Division of Entomology

* Excludes Midwives employed by Local Authorities.

II—VITAL STATISTICS

(i) *Population*

The varying density of population in the different Provinces giving rise to varying Public Health problems was referred to in the last year's Administration Report.

The estimated increase of population over the previous year is 211,000. The increase in the number of births over the deaths during this period is 199,302.

A survival of nearly 200,000 persons a year necessitates careful economic and social planning in regard to such items as housing, food, water supplies and employment which all have a vital bearing on the health of the people.

The question of population growth particularly in the economically backward countries has been engaging the attention of international assemblies but in view of the religious and moral implications involved no concrete proposals have yet been formulated.

TABLE I—POPULATION MID-YEAR 1949

	Population (Thousands)			Proportion Per 1,000
Province	*Males*	*Females*	*Persons*	*Persons*
1. Western	1,116	948	2,064	283
2. Central	652	580	1,232	169
3. Southern	531	526	1,057	145
4. Northern	267	258	525	72
5. Eastern	165	135	300	41
6. North-Western	393	339	732	100
7. North-Central	93	64	157	22
8. Uva	214	193	407	56
9. Sabaragamuwa	441	382	823	113
Whole Island	3,872	3,425	7,297	1,000

Note.—The population by sex are approximate proportionate figures based on the Census of 1946.

(ii) *Births and Deaths*

The high birth rate of the previous year was maintained. There were 3,496 more births. While the high birth rate has been maintained there has been a further reduction in the death rate. The lowest recorded death rate for the Island had been 13.2 per 1,000 population in 1948. It has been further reduced to 12.6 per 1,000 population in 1949. This is only a little more than half the death rate of 1945.

TABLE II—BIRTHS AND DEATHS 1871-1949

Period	*Birth Rate per 1,000 living*	*Number of Births registered*	*Estimated Population*	*Number of Deaths registered*	*Death Rate per 1,000 living*	*Infant Mortality Rate*
1871–1880	27·4	70,815	2,584,780	58,836	22·8	—
1881–1890	28·9	83,664	2,888,104	69,238	24·0	158
1891–1900	34·1	112,204	3,295,279	89,664	27·2	169
1901–1910	38·0	145,962	3,838,750	110,347	28·7	180
1911–1920	38·2	164,807	4,311,328	132,866	30·8	196
1921–1930	39·5	194,611	4,920,028	128,916	26·2	182
1931–1940	36·4	204,845	5,628,000	129,558	23·0	171
1921	40·7	183,917	4,521,762	140,749	31·2	192
1922	39·1	179,856	4,603,034	126,820	27·5	188
1923	38·7	181,437	4,684,306	141,891	30·3	212
1924	37·5	178,867	4,765,578	122,958	25·8	186
1925	39·9	193,261	4,846,850	117,543	24·3	172
1926	42·0	206,888	4,928,122	124,884	25·3	174
1927	41·0	205,469	5,009,394	113,003	22·6	160

Period	*Birth Rate per 1,000 living*	*Number of Births registered*	*Estimated Population*	*Number of Deaths registered*	*Death Rate per 1,000 living*	*Infant Mortality Rate*
1928	41·9	213,308	5,090,666	132,334	26·0	177
1929	38·3	198,005	5,171,938	135,274	26·1	187
1930	39·0	205.106	5,253,210	133,708	25·4	175
1931	37·4	199,170	5,325,354	117,452	22·1	158
1932	37·0	199,370	5,386,106	110,649	20·5	162
1933	38·6	209,032	5,415,516	114,690	21·2	157
1934	37·2	206,512	5,551,623	127,069	22·9	173
1935	34·4	192,755	5,598,467	204,823	36·6	263
1936	34·1	192,060	5,631,000	123,039	21·8	166
1937	37·8	216,072	5,712,000	124,210	21·7	158
1938	35·9	208,389	5,810,000	122,299	21·0	161
1939	36·0	212,111	5,897,000	128,611	21·8	166
1940	35·8	212,980	5,951,000	122,738	20·6	149
1941	36·5	219,864	6,020,000	113,003	18·8	129
1942	36·7	221,064	6,021,000	112,044	18·6	120
1943	40·6	248,820	6,134,000	131,061	21·4	132
1944	37·1	232,827	6,276,000	133,985	21·3	135
1945	36·7	238,494	6,496,000	142,931	22·0	140
1946	38·4	256,886	6,695,000	135,937	20·3	141
1947	39·4	271,177	6,879,000	98,544	14·3	101
1948	40·6	287,695	7,086,000	93,711	13·2	92
1949	39·9	291,191	7,297,000	91,889	12·6	87

N. B.—Annual Averages and Rates for the Decades, 1871 to 1940.

The main causes of death are given in the Table below. The reduction in the total number of deaths, it will be observed, is due to a lesser number of deaths from the infectious and parasitic diseases, Malaria, diseases of the respiratory system, puerperal causes and diseases of infancy.

There is unfortunately no improvement in regard to the number of deaths from the Typhoid and Paratyphoid fevers and Tuberculosis. The control of both these groups of diseases is not solely dependent on the activities of this Department. The provision of facilities for the safe disposal of excreta and of pure water supplies is a *sine qua non* in the control of the bowel diseases.

Equally important in the control of tuberculosis is the provision of sanitary housing, adequate nutrition and facilities for recreation.

TABLE III—MAIN CAUSES OF DEATHS REGISTERED IN CEYLON

		1948	*1949*
	All Causes	93.711	91,889
1.	Infectious and Parasitic diseases	15,837	14,594
	Typhoid fever and paratyphoid fever	860	872
	Diphtheria	144	128
	Influenza	1,136	976
	Dysentery	717	708
	Tuberculosis of the Respiratory System	3,771	3,866
	Tuberculosis of other organs	279	250
	Disseminated Tuberculosis—Acute	19	18
	Chronic	3	1
	Malaria fever and Malarial Cachexia	3,345	2,401
	Black Water Fever	4	2
	Ankylostomiasis	912	850
2.	Cancer and other tumours	974	1,059
3.	Rheumatic Diseases, Nutritional Diseases, Diseases of the Endocrine Glands and other General Diseases	6,977	7,571
	Acute Rheumatic Fever	1,774	1,777
	Rickets	475	444
	Mandama	4,100	4,630
4.	Diseases of the Blood and Blood making organs	1,955	2,109
5.	Chronic Poisonings and intoxicants	11	8
6.	Diseases of the nervous system and of the organs of the special sense	11,082	10,911
	Infantile convulsions (Age under 5 years)	8,115	7,809
7.	Diseases of the Circulatory System	3,322	3,599
8.	Diseases of the Respiratory System	11,203	10,101
	Bronchitis	1,177	1,025
	Broncho-pneumonia including capillary Bronchitis	2,932	2,800
	Lobar Pneumonia	1,459	1,125
	Pneumonia, unspecified	3,705	3,323

		1948	*1949*
9.	Diseases of the Digestive System	6,569	6,710
	Diarrhoea and Enteritis (Under 2 years of age)	1,845	2,085
	Diarrhoea and Enteritis (Two years and over)	3,191	2,984
10.	Non-Venereal Diseases of the Genito-urinary System and Annexa	1,543	1,472
11.	Diseases of pregnancy, Child birth and the puerperal state	2,377	1,906
	Puerperal Haemorrhage	376	369
	Puerperal Sepsis not returned as post-abortive	505	406
	Puerperal Albuminuria and Convulsions	875	614
12.	Diseases of the Skin and Cellular tissue (Exclude Rathe of Infants)	707	625
13.	Diseases of the Bones and organs of locomotion	23	16
14.	Congenital Malformations	119	124
15.	Diseases of early infancy (include "Rathe")	14,407	12,579
	Congenital debility	5,977	5,557
	Premature Birth	4,540	4,172
	Rathe	3,550	3,468
16.	Old Age	6,918	7,770
17.	Violent and Accidental deaths	3,212	3,245
18.	Ill-defined causes of deaths	6,475	6,490
	Cases of Death unstated or undefined—(*a*) Dropsy	1,001	1,022
	(*b*) Pyrexia	4,333	4,181

N. B.—Provisional figures may vary a little from the final figures of the Registrar-General.

Infant Mortality

The rate of 92 per 1,000 births in 1948 was the lowest recorded until that year. It has been further reduced in 1949 to 87 per 1,000. This represents a saving of 1,449 infant lives. The neo-natal mortality has also been correspondingly reduced. A specially gratifying feature is that a reduction is reflected in all provinces. The rate for Uva remains stationary. The highest reduction is in the Northern Province where the rate has dropped from 126 to 78.

TABLE IV—INFANT MORTALITY RATES BY PROVINCES, 1949

	Province	*Population in Thousands*	*Birth Rate*	*Infant Mortality Rate*	*Neo-Natal Mortality Rate*	*Mortality Rate. One Month to 12 Months*
1.	Western	2,064	37·2	89	50	39
2.	Central	1,232	42·4	97	61	36
3.	Southern	1,057	37·6	77	41	36
4.	Northern	525	36·0	78	38	40
5.	Eastern	300	40·5	114	61	53
6.	North-Western	732	44·9	76	45	32
7.	North-Central	157	48·8	90	52	37
8.	Sabaragamuwa	823	41·4	78	47	32
9.	Uva	407	41·2	99	59	40
	Ceylon	7,297	39·9	87	50	37

The largest single cause of infant deaths continues to be prematurity although a reduction in the number of deaths from this cause is observed. The next in order of importance are debility, diarrhoea and enteritis and Pneumonia.

These major causes of infant deaths point to the direction in which our efforts should be concentrated for the further reduction of our Infant Mortality Rate.

Our efforts to secure a mobile incubator van for the rapid transport of premature babies delivered under domiciliary care for institutional care have not been successful. It is a method that has given very satisfactory results in Chicago in the U. S. A.

TABLE V—CAUSES AND NUMBERS OF INFANT DEATHS IN THE PRINCIPAL TOWNS FOR THE PAST THREE YEARS

Causes	*Number of Deaths*		
	1947	*1948*	*1949*
No. of Principal Towns	43	46	47
Infant Mortality	6,220	6,527	6,415
(A) *One Week and Under :*			
1. Prematurity	1,247	1,305	1,162
2. Debility	672	756	705
3. Convulsions	80	93	81
4. Tetanus	7	14	16
5. Bronchitis	1	4	2
6. Pneumonia	26	52	69
7. Other causes	263	443	483
(B) *Over One Week and Under One Year :*			
1. Prematurity	421	256	235
2. Debility	837	836	847
3. Convulsions	457	379	355
4. Diarrhoea	131	166	228
5. Enteritis	686	722	751
6. Tetanus	26	28	19
7. Bronchitis	53	64	55
8. Pneumonia	611	662	735
9. Syphilis	24	24	25
10. Other causes	678	723	647

Maternal Mortality

The method of computation of our Maternal Mortality Rate has been referred to in the 1948 Report. It will be evident that if the total number of births had been used as the denominator instead of the live births only in the computation of this rate a further reduction would have been effected.

As in the case of the Infant Mortality Rate the rate for Maternal Mortality had been lowest recorded in 1948. It is gratifying to record that a further substantial reduction has been effected in 1949 to 6.5 per 1,000 live births.

TABLE VI—MATERNAL MORTALITY

Period	*Number*	*Rate per 1,000 Live Births*
1921-1930	3,847	19.8
1931-1940	4,111	20.1
1931	4,142	20.8
1932	3,821	19.2
1933	3,882	18.6
1934	4,155	20.1
1935	5,165	26.5
1936	4,158	21.6
1937	4,304	19.9
1938	4,195	20.1
1939	3,869	18.2
1940	3,423	16.1
1941	3,369	15.3
1942	3,194	14.4
1943	3,321	13.3
1944	3,179	13.7
1945	3,940	16.5
1946	3,987	15.5
1947	2,863	10.6
1948	2,377	8.3
1949	1,906	6.5

III—MEDICAL CARE

Considerable improvement was made during the year under review for the better administration of medical care. In addition to ten new Rural Hospitals and seven new Central Dispensaries that were constructed, a determined effort was made to improve the main Provincial Hospitals in regard to buildings, staff and equipment with a view to establishing specialist services in these institutions similar to those available in Colombo. New constructions and extensions to existing buildings were effected in Jaffna, Kandy, Kurunegala and Batticaloa, and were commenced in Galle and Badulla. An entirely new hospital, costing several millions of rupees, for Ratnapura is contemplated and the delay in its execution has been due to the difficulty of selecting a suitable site. Similarly, a new hospital will be constructed for the North-Central Province in the new Town of Anuradhapura.

The staffs of these Provincial Hospitals have been strengthened by the appointment of an ENT Surgeon, a Resident Obstetrician and an Assistant Dental Surgeon to Kandy, an ENT Surgeon to Jaffna and an additional General Surgeon to Badulla.

Three X'Ray plants have been provided during this year and new plants, replacing the old ones, have been installed in Kandy, Kurunegala and Badulla.

Twenty-five ambulances were secured and these would facilitate the exchange of patients between the different grades of institutions and make available the facilities available in the larger institutions to a larger number of persons.

In Colombo, building operations have been in progress in connection with the new wing of 250 beds for the Children's Hospital and the Castle Street Maternity Home.

Work is also in progress in connection with the waiting halls and examination rooms for the inauguration of a scheme of Out-Patient Clinic work which would afford means for group consultations as well as for control of admissions to the wards of the General Hospital.

An Observation Ward attached to the Out-Patients' Department is also under construction.

An additional floor is being incorporated in the Orthopaedic Clinic and a new workshop is being provided. Extensive alterations are being effected to the old Out-Patients' Department to accommodate the X'Ray Department and the Department of Physical Medicine.

Plans have been prepared for a new wing for the Nurses' Training School and a five-storey block at the General Hospital.

New Departments of Physiotherapy, Neuropsychiatry and Urology have been established at the General Hospital with specialist officers in charge of each of these sections.

Eight Viennese Specialists were recruited on a contract basis. Four of them are attached to the General Hospital, one to the Medical Research Institute, one to the Eye-Hospital, and one each to Jaffna and Badulla.

The Nursing Staff of the Kandy Hospital was strengthened by the recruitment of five American Mary Knoll religious Nursing Sisters.

Medical Institutions

During the year under review ten Rural Hospitals with accommodation for 202 beds which were under construction in the previous year was completed and made available for the accommodation of patients. One Rural Hospital (Wetara) was converted into a Maternity Home, so that the number of Rural Hospitals in 1949 was 109 as against 100 in the previous year.

The total number of beds in all the hospitals in the Island during the year was 19,809 which includes 6,181 in special institutions. The figures for the previous year were 18,822 and 5,938, respectively, and indicate an increase of 987 in the total bed strength of all hospitals in the Island. The ratio of hospital beds to population is 2.7 beds per 1,000 of the population.

Two Cottage Hospitals were converted into District Hospitals during the year by the addition to these of maternity and other wards.

The following tables indicate the number and distribution of all hospitals other than special institutions.

(A) HOSPITALS

TABLE VII—PROVINCIAL AND DISTRICT HOSPITALS

Area	*Number of Hospitals*	*Number of Beds*
Western Province :		
Colombo and Negombo	9	2.416
Kalutara	6	489
Central Province :		
Kandy	12	1.364
Matale	2	259
Nuwara Eliya	8	451
Southern Province :		
Galle	4	646
Matara	2	309
Hambantota	4	272
Northern Province :		
Jaffna	7	798
Mannar	3	156
Vavuniya	2	112
Eastern Province :		
Batticaloa	3	198
Trincomalee	1	150
North-Western Province :		
Kurunegala	6	897
Puttalam-Chilaw	4	327
North-Central Province :		
Anuradhapura	3	291
Uva Province :		
Badulla	11	769
Sabaragamuwa Province :		
Ratnapura	8	645
Kegalla	5	590
Total	100	11.139

TABLE VIII—COTTAGE HOSPITALS

Area	*Number of Hospitals*	*Number of Beds*
Western Province	3	84
Central Province	5	88
Southern Province	2	36
Eastern Province	2	32
Northern Province	2	32
North-Central Province	1	28
North-Western Province	—	—
Sabaragamuwa Province	1	18
Uva Province	1	21
Total	17	339

TABLE IX—RURAL HOSPITALS

Area	*Number of Hospitals*	*Number of Beds*
Western Province	11	202
Central Province	20	362
Southern Province	22	468
Eastern Province	8	146
Northern Province	8	169
North-Central Province	6	141
North-Western Province	19	412
Sabaragamuwa Province	10	168
Uva Province	5	82
Total	109	2,150

During the year under review 741,202 patients were treated in all hospitals in the Island and there were 20,619 deaths. The percentage of deaths to those treated was therefore 2.78 per cent.

The following table gives the number of patients treated and the number of deaths in hospitals by provinces.

TABLE X—HOSPITAL STATISTICS OF IN-PATIENTS

Province and District	*No. treated in 1949*	*Number of Deaths*
Western Province :		
Colombo District	179,772	7,721
Kalutara District	36,659	1,172
Central Province :		
Kandy District	85,447	2,372
Matale District	17,463	353
Nuwara Eliya District	19,802	528
Southern Province :		
Galle District	44,767	1,261
Matara District	27,842	562
Hambantota District	25,258	432
Northern Province :		
Jaffna District	35,931	540
Mannar District	7,258	123
Vavuniya District	3,505	80
Eastern Province:		
Batticaloa District	11,236	243
Trincomalee District	5,754	122
North-Western Province :		
Kurunegala District	65,294	1,597
Puttalam District	17,363	451
North-Central Province :		
Anuradhapura District	29,944	311
Uva Province :		
Badulla District	40,832	864
Sabaragamuwa Province :		
Ratnapura District	45,912	1,087
Kegalla District	41,163	800
Total	741,202	20,619

Staff of Medical Institutions

The rules for the recruitment of Medical Officers continued to be the same as in the previous year. During the year 1949, 40 Medical Officers were appointed to the Curative Side of the Service. Of those in service 9 retired and there were 7 resignations. The number of Medical Officers on the Curative Side of the Service was 553 at the end of 1949.

During the year under review 21 Medical Officers were granted leave to proceed abroad for the purpose of obtaining special qualifications and 16 Medical Officers who had proceeded on study leave earlier returned to the Island. Eight Viennese Specialists, as stated earlier, were recruited into the Service on a contract basis during the year. Four of these Specialists are attached to the General Hospital, Colombo, and the other four were appointed to the Medical Research Institute, the Eye Hospital and Jaffna and Badulla Hospitals.

TABLE XI—STAFF (MAJOR AND MINOR) OF MEDICAL INSTITUTIONS

Medical Officers :	
Special and Supra Grade	19
Psychiatric Service—Grade I	2
Psychiatric Service—Grade II	5
Medical Officers—Grade I	118
Medical Officers—Grade II	249
Medical Officers—Preliminary Grade	157
Temporary	3
Apothecaries	330
Nursing Staff :	
Matrons	91
Sisters	23
Nurses	775
Tutors	10
Mothers (Religious)	9
Sisters (Religious)	171
Hospital Clerks	242
Kitchen Stewardesses	22
Other Major Staff	105
Minor Staff :	
Midwives	317
Attendants :	
Male	2,490
Female	2,160
Other Minor Staff	5,477

(i) GENERAL HOSPITAL, COLOMBO

The accommodation available at this hospital in 1949 was 1,327 beds for non-paying patients and 115 for paying patients—a total of 1,442 beds, and an increase of 33 beds in the non-paying wards over the previous year.

The number of non-paying patients admitted into hospital in 1949 was 53,998 as against 54,346 in the previous year. The daily average of sick in hospital was 2,233 which figure represents a state of overcrowding of nearly 70 per cent. affecting the non-paying section, in spite of strict control measures in regard to admissions.

There were 3,034 deaths in hospital as compared with 2,568 during the previous year.

The morbidity and mortality figures of the commoner diseases of the year 1948 and 1949 are given below:

TABLE XII

Diseases	*1949*		*1948*	
	Cases	*Deaths*	*Cases*	*Deaths*
Typhoid	1,094	157	895	136
Malaria	777	21	1,276	33
Amoebiasis	1,725	42	1,474	35
Pulmonary Tuberculosis	1,986	381	2,327	367
Syphillis	302	5	157	—
Cancers	2,661	266	2,419	168
Lobar Pneumonia	1,829	92	1,942	97
Appendicitis	1,369	18	1,002	17
Hernias	851	25	1,028	21
Accidents	4,250	133	4,627	123
Fractures and Dislocations	1,768	93	1,648	86
Influenza	1,998	1	1,866	5

During the year under review 9,207 surgical operations, mostly major ones, were performed in the hospital. This figure includes 1,005 gnyaecological and 870 ENT operations. At the Out-patients' Department 168,427 patients were treated during the year under review. The total number of visits paid was 363,962 and the daily average attendance was 997 as against 1,259 in the previous year.

Out-Patient Clinics

Diabetic Clinic is conducted once a week for new cases; but patients under treatment attend daily. 188 first and 24,480 subsequent visits were paid to the clinic during the year.

Regular examinations of the urine for sugar and acetone are made and from 20 to 28 blood sugar examinations are made every month.

Skin Clinic is conducted once a week when clinical, bacteriological and seralogical examinations are carried out.

During the year 2,646 first and 5,226 subsequent visits were paid to the clinic.

Heart Clinic—The two Cardiologists attached to the Hospital conduct this clinic which is held on four days in the week. In addition to clinical examinations and the recording of Blood Pressure, screening of the heart is carried out, as also the taking of Electro-Cardiograms. 2,103 first and 7,342 subsequent visits were paid to the clinic.

Nerve Clinic—This clinic which controls admissions to the Neuropsychiatric Ward commenced its activities in August, 1949, and at the end of the year the figures of attendance were 180 first and 725 second visits.

Rectal Clinic is held once a week and the number attending it has increased considerably. On an average 35 to 40 patients are treated on every clinic day. The number of first visits paid during the year was 496 and the subsequent visits 980.

Varicose Veins Clinic which is held once a week deals with the treatment of Varicose Veins and also their complications. There were 280 first and 620 subsequent visits to this clinic during the year.

Venereal Diseases Clinic is conducted every day. Details of the work done in this clinic are given elsewhere in the report.

Orthopaedic Clinic—The popularity of this clinic which is held every day has increased very considerably. During the year under review, the Technician who was sent to England for a year's training in the making of artificial limbs, returned to the Island and is now in charge of the workshop. Improvements to the building in which the clinic is held are being carried out—an upper storey is being provided to the existing building and will soon be ready for occupation—as also a new workshop. A new X-Ray plant has been installed and equipment to the value of £10,000 is on indent and is expected to arrive shortly. More modern methods of limb making and treatment of Orthopaedic cases on improved lines are being carried out. During the year under review there were 17,476 visits paid to the clinic of which 5,603 were new cases.

Statement of Surgical Appliances, Artificial Limbs, &c., completed in 1949

Artificial Limbs ...		39
Surgical Appliances:		
Short and Long Leg braces steel	128	
Spine braces	10	
Splints of various types	293	431
Surgical Boots and Shoes, pairs ...		267
Surgical Sandals, wooden		45
Pylons		61
Pylon set-ups		19
Crutches—Arm Crutches	36	
Crutch sticks	51	87
Repairs to Limbs and Appliances		152
Alterations to patients' shoes		122
Total ...		1,223

Ear, Nose and Throat Clinic.—This clinic is conducted on six days in the week by two Surgeons to whom all ENT cases in hospital wards are referred in addition to those who attend as out-door patients. During the year under review 11,469 first and 9,405 subsequent visits were paid to the clinic.

Asthma Clinic is held every day and is gaining in popularity. The number of patients attending this Clinic during 1949 was 2,452 first and 18,363 subsequent visits.

Section of Physical Medicine.—Work in this section was commenced in June, 1949, and consists of Electrotherapy and massage sections. This clinic which is conducted in a portion of the Administration Block has expanded considerably in its activities and will soon move into the building formerly used as the out-patients' department. Most of the apparatus has been overhauled and new equipment is on indent. New devices for electrical baths have been installed and in the massage section a new technique is now employed and arrangements for administering light treatment in every treatment room have been completed.

In the Electrotheraputic Section, the monthly number of cases treated rose to 2,750 and in the Massage Section to 1,550.

Blood Bank is in charge of the Resident Physician. Blood is collected every day from Donors who may claim an honorarium of Rs. 10 if they so desire. During 1949, 1,801 Donors were bled and the honorarium was paid to 1,717 of them. 1,220 blood transfusions were given to patients in the General Hospital during the year as against 1,659 in 1948. Of the cases given transfusion, 23 showed incompatible reactions, a percentage under 2 which compares favourably with figures obtaining in Western countries. One death occurred as the result of blood transfusion.

In addition to the blood transfusions given to patients in the General Hospital, 102 transfusions were given to patients in private hospitals, with blood from the General Hospital Blood Bank.

The blood is stored in 10 oz. bottles and quantities of these were supplied to other Government institutions, namely:—

De Soysa Maternity Hospital	843 bottles
Lady Havelock Hospital	92 bottles
Anti-Tuberculosis Institute	4 bottles
Ragama Branch Hospital	16 bottles
Kegalla Hospital	4 bottles
Gampaha Hospital	3 bottles
Military Hospital, Colombo	4 bottles

Radiology Department.—The accommodation provided for this department at present in part of the Administration Block is inadequate and it is intended that the Diagnostic Section will be moved into a portion of the former out-patients' department where the necessary alterations preparatory to the shifting are now in progress. More X'Ray plants which were indented for, have arrived and are awaiting installation.

Report of work done in the Department of Radiology

X'Ray Examination, Main X'Ray Room	Paying ...	1,461	
	Non-paying	29,467	... 30,928
X'Ray Examination, O.P.D.	Paying ...	103	
	Non-paying	2,233	... 2,336
Electrocardiographie Examination	Paying ...	175	
	Non-paying	2,024	... 2,199
Deep-Ray Therapy Treatment	Paying ...	56	
	Non-paying	1,978	... 2,034

Urology Clinic was commenced at the end of October, 1949, and is conducted four times a week. During the two months of the year during which it functioned 564 patients were treated.

Cancer Clinic is held daily except on Sundays and the work done consists of—

(1) Cancer detection, where patients suspected of suffering from Cancer are investigated and a diagnosis arrived at;

(2) X'Ray Therapy of confirmed cases.

The daily average attendance at this clinic during the year was 100.

Many cases are also referred to this clinic from other Government institutions in the City as well as from out-stations.

A voluntary organization, the " Friends of the Cancer Clinic ", afford valuable assistance to the poorer patients seeking treatment by providing transport and temporary accommodation while undergoing treatment in Colombo. Its members are present at the clinic daily and distribute milk foods as well as fruit drinks to those awaiting treatment.

The following are the figures of treatment given by months:—

January	1,527	July	1,520
February	1,139	August	1,334
March	1,602	September	1,507
April	1,394	October	1,455
May	1,389	November	1,447
June	1,855	December	1,334

Pathological Department

Grouping of blood of patients	2,705
Direct test	2,718
Total	5,423
Other examinations:	
Urine Specimens	38,223
Faeces Specimens	72,419
Gastric contents	4,276
Sputum specimens	14,104
Blood specimens	117,382
Cerebro-spinal fluid specimens	4,842
Smears	3,916
Tissue section	4,158
Post-mortems	437

(ii) CIVIL HOSPITAL, KANDY

This is the largest Provincial Hospital and has accommodation for 618 beds. There has not been any increase in the number of beds since last year. During the year under review five Religious Nursing Sisters of the Order of St. Dominic, New York, assumed duties at the Hospital. This is in accordance with the intention of the Department ultimately to give over the charge of the nursing of the patients in this Hospital to these Sisters.

An ENT Surgeon, a Resident Obstetrician and an Assistant Dental Surgeon were appointed during the year. Attached to this Hospital is a centre for training nurses. The last batch of Swabasha Nurses, who were under training in Kandy, was transferred to Colombo and in their place 58 Pupil Assistant Nurses were admitted for training.

The building of the new kitchen was completed during the year but it has not been put into use as some of the electrical equipment ordered from England has not yet arrived. Two sets of quarters for Resident Medical Officers were built and the extensions to the House Officers' Quarters completed.

The daily average of sick in hospital during the year was 1,096 as compared with 1,035 in the previous year. The number of deaths was 1,344. 1,417 operations were performed during the year, 880 of these being major ones. There were also 133 obstetric operations performed.

Eye Department

304 eye operations were performed in Hospital and 335 minor operations at the out-door.

Dental Clinic

The total number of patients treated were 10,644. Daily average attendance 56.

Blood Bank

116 Blood Transfusions were given to patients in hospital.

Pathological Department

Number of specimens examined—

Urine	19,428
Faeces	8,177
Sputum	5,993
Blood	22,052
Gastric contents	17
Cerebro-spinal fluid	265
Smears	1,362
Cultures	461
Tissue section	104
Number of post-mortem examinations	9

(iii) CIVIL HOSPITAL, GALLE

There has been no increase in the number of beds in this Hospital, which has accommodation for 345 beds.

A dining room for the minor staff was completed and the building of the new kitchen commenced.

The following is a summary of the work done during the year:—

Eye Clinic :

First visits	18,271
All visits (first and subsequent visits)	31,336

T. B. Clinic

First visits	8,505
All visits	24,799

Ante-natal Clinic

First visits	581
All visits	1,138

X'Ray Department

Non-paying cases	9,701
Paying cases	398

Pathological Department

No. of specimens of blood examined	15,216
No. of specimens of urine examined	8,991
No. of specimens of faeces examined	3,267
No. of specimens of smears examined	1,235
No. of specimens of fluids examined	52
Number of other specimens examined	3,285
Total	32,046

Anti-rabies treatment	758
Major operations	305
Minor operations	1,997
Obstetric and gynaecological operations	301
Major eye operations	276
Minor eye operations	726

(iv) CIVIL HOSPITAL, KURUNEGALA

This Hospital provides accommodation for 411 beds. The total number of patients treated during the year was 23,380. The daily average of sick in hospital was 689. At the out-patient department 85,741 patients were treated during the year.

540 major and 101 minor operations were performed and also 139 obstetric operations.

X'Ray Department

A high-powered X'Ray plant was installed during the year to replace the old plant which is now used as a ward unit for patients who cannot be moved from their beds.

The following X'Ray examinations were done: private cases 20, paying patients 19 and Hospital cases 4,030.

V. D. Department

During the year 786 males and 381 females were treated.

Dental Department

2,947 out-door and 320 indoor cases were treated during the year.

Pathological Department

The following specimens were examined during the year:—

Urine	10,674
Faeces	1,536
Sputum	2,367
Smears	884
Blood	3,809
Other specimens	94

(v) CIVIL HOSPITAL, JAFFNA

This Hospital has accommodation for 304 beds. An up-to-date Out-patients' Department was opened during the course of the year and the old building is being converted into a pathological laboratory. A modern kitchen, suited for a hospital of 500 beds was completed.

A Viennese Specialist in ENT work was appointed to the Hospital towards the end of the year. During the year under review, there were 14,128 admissions to the Hospital; the daily average of sick being 482. There were 282 deaths.

840 major and 2,556 minor operations were performed and also 158 Ophthalmic and 61 Obstetric operations. At the out-patients' department 110,564 visits were paid by patients.

Ear-Nose-Throat Clinic was commenced on December 1, 1949, and during this month 538 patients were treated. 17 major and 20 minor operations were performed.

Eye Clinic 15,903 first and 23,115 subsequent visits were paid by patients during the year.

Dental Clinic

The following is a summary of the work done during the year:—

Extractions	6,556
Dressings	6,157
Scalings	622
Temporary filling	135
Dental operations	14

Venereal Diseases Clinic

1,904 patients were treated during the year. 31,213 laboratory examinations were made during the year.

(vi) CIVIL HOSPITAL, BADULLA

This is the largest hospital in the Uva Province and is provided with accommodation for 215 beds. The total number of admissions for the year was 14,448 and the daily average of sick was 437.

During the year under review the construction of a new Maternity Ward to accommodate 64 beds was commenced and the work is progressing rapidly. Two temporary wards were reconditioned. 306 major and 311 minor operations were performed. The Obstetric and Gynaecological operations numbered fifty.

At the Out-patients' Department 77,805 patients were treated.

Eye Department

The total number of visits paid to this clinic was 15,971.

Dental Clinic

A dental surgeon is in attendance at this clinic for only 10 days each month. 2,020 patients were treated during the year.

X'Ray Department

A new X'Ray plant was installed during the year. 100 paying and 1,181 non-paying patients were examined.

V. D. Clinic

There were 248 first and 2,162 subsequent visits paid to this clinic.

(vii)—CIVIL HOSPITAL, RATNAPURA

This Hospital has accommodation for 124 beds and is the principal hospital in the Province of Sabaragamuwa. The total number of patients treated was 8,143 and the daily average of sick in hospital was 226. There were 381 deaths during the year. The total number of out-door attendances was 48,389 with a daily average of 127. Ante- and Post-Natal clinics are conducted at the hospital regularly.

(viii)—CIVIL HOSPITAL, ANURADHAPURA

This is the largest hospital in the North-Central Province and has accommodation for 210 beds.

During the year under review 10,168 patients were treated in hospital and there were 84 deaths. Dental and V. D. Clinics are conducted in the hospital.

(ix)—CIVIL HOSPITAL, BATTICALOA

This hospital, which is the most important Hospital in the Eastern Province, provided accommodation for 60 beds. During the year 1949, a Maternity Ward of 64 beds was completed and opened for the accommodation of patients. 2,859 patients were treated in hospital during the year and there were 129 deaths.

At the Out-patients' Department, 29,681 patients were treated and the daily average attendance was 125. An Eye Department is attached to the hospital, where 4,189 patients received treatment during the year. 34 major and 247 minor operations were performed in this department.

Dental and V. D. Clinics are also conducted in this hospital.

(x)—PRISON HOSPITALS

Prisons are served by eleven hospitals attached to the Chief Prisons of the Island with a total bed-strength of 436. Prison Hospital, Welikada, which continues to be the largest Prison Hospital has accommodation for 179 beds and has Dental, V. D. and Mental Clinics.

During the year 10,990 patients were admitted to these hospitals while 234,796 visits were paid to the Out-Patients' dispensaries attached to these hospitals.

(xi)—POLICE HOSPITAL, COLOMBO

The hospital consists of two non-paying wards of 56 beds and a paying ward of 4 beds. It caters to the medical needs of the rank and file of the Police Force in Colombo. During the year 1949, 830 patients were admitted and the daily average sick was 25. There were no deaths. The number of attendance at the out-patients' department was 11,316.

TABLE XIII—SICK TREATED IN THE GOVERNMENT HOSPITALS IN CEYLON DURING THE YEAR 1949

	Diseases (Groups)	*Remaining in Hospital at the end of 1948*	*Admissions in 1949*	*Deaths in 1949*	*Total Cases treated in 1949*
1.	Epidemic, Endemic, and Infectious Diseases	5,303	130,510	4,368	135,813
2.	General Diseases not mentioned in (1)	958	34,739	1,105	35,697
3.	Affections of the Nervous System and Organs of the Senses	829	26,983	997	27,812
4.	Affections of the Circulatory System	333	11,979	1,675	12,312
5.	Affections of the Respiratory System	1,347	71,249	2,824	72,596
6.	Diseases of the Digestive System	1,658	92,831	3,251	94,489
7.	Diseases of the Genito-Urinary System (non-venereal)	654	26,231	624	26,885
8.	Puerperal State	4,823	136,426	962	141,249
9.	Affections of the skin and cellular tissues	1,803	57,562	326	59,365
10.	Diseases of bones and organs of locomotion (other than tuberculosis)	154	4,280	53	4,434
11.	Malformations	2	439	25	441
12.	Diseases of Infancy	138	7,952	2,458	8,090
13.	Affections of old age	283	7,101	759	7,384
14.	Affections produced by External Causes	1,185	51,066	802	52,251
15.	Ill-defined Diseases	1,821	60,563	390	62,384
	Total	21,291	719,911	20,619	741,202

(B)—DISPENSARIES

Central Dispensaries are established in remote parts of the country, primarily to render out-door treatment.

These Dispensaries, for the most part, are in charge of qualified Apothecaries whose work is supervised by Medical Officers of Health.

At the end of the year 1949, there were 13 Central Dispensaries in charge of Medical Officers and 212 Central Dispensaries in charge of Apothecaries. 184 Branch Dispensaries and 551 Visiting Stations were attached to these Dispensaries. Six Rural Hospitals were constructed in association with a similar number of existing Central Dispensaries and the unit so formed is referred to as a Rural Hospital.

The total number of cases treated at the Out-door Dispensaries all over the Island is 9,420,091. The largest number received treatment for Influenza. The cases treated at Hospital Out-Patients' Departments and Dispensaries were as follows:—

	Diseases Groups		*Cases*
1.	Epidemic, Endemic and Infectious Diseases	... ...	2,460,933
2.	General Diseases not mentioned in (1) ...	... ...	1,080,137
3.	Affections of the Nervous System and Organs of the Senses	...	287,338
4.	Affections of the Circulatory System	... ...	65,100
5.	Affections of the Respiratory System	... ...	519,402
6.	Diseases of the Digestive System	... ...	2.828,408
7.	Diseases of the Genito-Urinary System (Non-Venereal) ...	...	411,298
8.	Puerperal State	... ...	10,843
9.	Affections of the Skin and Cellular Tissues	... ...	487,972
10.	Diseases of Bones and Organs of Locomotion (other than Tuberculosis) ...		858,837
11.	Malformations	... ...	—
12.	Diseases of Infancy	... ...	—
13.	Affections of Old Age	... ...	—
14.	Affections produced by External Causes ...	... ...	277,118
15.	Ill-defined Diseases	... ...	132,705
		Total ...	9.420,091 *

* This figure does not indicate the number of patients treated. Repeated visits of the same patient after short intervals have been regarded as new cases.

The total number of qualified Apothecaries employed was 653, and the sanctioned cadre was 701. There were 44 new appointments and 9 retirements, deaths, &c., in the course of the year.

The old Mobile Dispensary "Karuna" was replaced by a new one in which there were novel features such as radio equipment.

There is an Ambulance service for transporting serious cases from Central Dispensaries to District and Provincial Hospitals.

The supply of qualified Apothecaries is still short of the number required. The number of Relieving Apothecaries was raised from 18 to 29 in the course of the year, and the relief arrangements of Apothecaries for the most part were entrusted to Divisional Medical Superintendents (Health and Curative). It is proposed to keep adding to this number until a proportion of about 10 per cent. of the sanctioned cadre is reached.

It has been found necessary still to draw on unqualified personnel for acting duty. This need will gradually diminish and in a few years time, it is hoped, will entirely cease.

To ensure a fair distribution of qualified Apothecaries in important stations, 12 qualified Apothecaries were replaced by Approved Dispensers and Pharmacists in stations where such replacements were feasible.

An Amendment (No. 46 of 1949) to the Medical Ordinance was enacted granting the right of Private Practice to Apothecaries who retired or retire from Government Service, on passing a Test held by the Medical Council.

Fifty deserving Apothecary students were given bursaries at a cost of Rs. 12,000.

(C) SPECIAL INSTITUTIONS

(i) DE SOYSA MATERNITY HOSPITAL, COLOMBO

There is provision to accommodate 433 patients. There are 313 beds in the non-paying Section and 20 beds in the paying Section. A further 100 beds for post-natal cases are provided in the Branch Hospital, Regent Street, but owing to repairs to one of the wards only 50 beds were available for the greater part of the year. The daily average number of patients was 388.

Staff

The professional staff consists of the following:—

1 Divisional Medical Superintendent (Colombo Hospitals).
4 Visiting Obstetricians.
3 Resident Obstetricians.
1 Professor of Obstertrics and Gynaecology.
1 Paediatrician.
11 House Officers.

Nursing Staff

1 Matron.
6 Sisters.
31 Permanent Nurses.
33 Temporary Nurses.
43 Midwives.

In addition, there are 4 Apothecaries, 1 Relieving Apothecary and 2 Laboratory Assistants.

Admissions

The total number of patients treated for the year under review was 18,062 as against 16,973 for 1948. This increase in number has led to uncomfortable overcrowding. With a view to relieving this congestion, a circular was issued to the Superintendent to restrict the admissions to abnormal cases as far as possible, but in spite of this restriction overcrowding has been an acute problem. Many cases seeking admission though normal from a purely obstetric point of view at the time of examination had to be admitted because of some associated disease, the proper treatment of which was an essential pre-requisite for the prevention of complications during labour and puerperium. The provision of improved facilities and the appointment of Specialist Obstetricians to the Provincial Hospitals will, it is hoped, relieve the overcrowding in the chief Maternity Hospital of the Island.

Deliveries

The total number of deliveries was 13,381, which represents an increase of 735 deliveries as compared with the figures for the year 1948. Of this number live births accounted for 12,598 and still births 783. Out of the total of 13,381 deliveries, 12,845 were delivered by the vertex and the remaining 536 accounted for abnormal deliveries. There were 148 cases of twin deliveries and two sets of triplets.

Still Births

The total number of still-births for the year was 783 which gives an incidence of 58.5 per 1,000 births. It will be noted that the incidence was higher than in the previous year. A large number of mothers who were delivered of still-born babies were suffering from anaemia and pre-Eclamptic toxaemia. In order to effect any reduction in still-births, the problem of improving nutrition of pregnant mothers should be tackled with the least possible delay. There is no doubt that anaemia is a contributory cause of that dangerous complication of pre-Eclamptic toxaemia which has such a lethal effect on the foetus *in utero*.

Maternal Deaths

There were 127 deaths for 13,381 deliveries giving a death rate of 9.5 per 1,000 deliveries which is an improvement on the 1948 figure of 10.6.

Infant Deaths

The number of live births was 12,598 of which 688 died during their stay in hospital. Of the 688 infant deaths, 279 occurred among the premature babies or in other words 40 per cent. of deaths occurred among the premature group due to prematurity itself or to some intercurrent affection. Asphyxia, Intracranial Haemorrhage and Infections continue to be the major causes of death and they take heavy toll of premature infant life.

Operations

1,023 Obstetric Operations were performed during the year of which 57 were deliveries by abdominal section. Out of a total of 13,381 deliveries 57 required Caesarian Section giving an incidence of 4.3 per 1,000 deliveries.

Ante-Natal Clinic

There was a total of 31,400 visits to the clinic as against 29,492 in the previous year. This increase in attendance is proof of the increasing popularity of the Ante-Natal Clinic but the same cannot be said in the case of the Post-Natal Clinic, the usefulness of which does not seem to be appreciated by most of the mothers. The following figures speak for themselves: 114 Post-Natal visits for 13,381 confinements!

Laboratory Work

30,246 Examinations were carried out at the Laboratory. Among these were 10,697 specimens of urine, 10,612 specimens of faeces, 7,044 of blood and 1,893 of other specimens. A large proportion of specimen faeces were positive for Cysts of *Entamoebae Hystolitica.*

Puerperal Pyrexia and Sepsis

There were 214 cases of Puerperal Pyrexia and 31 cases of Puerperal Sepsis as diagnosed clinically and or Bacteriologically. There were four maternity deaths from Puerperal Sepsis. This small number of puerperal deaths is due mainly to the full and rigid Aseptic Technique observed in Intra-Natal and Post-Natal management and partly to the prompt use of Sulpha drugs and Antibiotics as preventive and curative measures.

Neo-Natal Diarrhoea

The out-break of neo-natal diarrhoea which occurred in 1948 was brought under control towards the end of that year, but a fair number of sporadic cases occurred in 1949, particularly in the first half of the year, but at no time did it assume epidemic proportions. In the year under review there were 64 infant deaths due to enteritis. A conference was convened to inquire into this problem and it was decided to adopt more efficient methods for the disposal of soiled baby linen. The introduction of these measures has brought about a gradual reduction of the incidence of Gastro-Enteritis.

Training of Midwives

This Institution continues to be the chief Institutional Training Centre for Midwives in the Island. The field training is given to Pupil Midwives at the Health Units. The course is one of 18 months of which 12 months are spent at the Maternity Hospital and 6 months at a Health Unit.

TABLE XIV—ANNUAL SUMMARY FIGURES OF ANTE-NATAL AND POST-NATAL CLINICS, 1949

	Ante-Natal		*Post-Natal*		
Month	*First Visits*	*Subsequent Visits*	*First Visits*	*Subsequent Visits*	*Total*
January	1,567	1,067	11	2	2,647
February	1,204	908	15	6	2,133
March	1,527	1,030	12	3	2,572
April	1,244	898	3	—	2,145
May	1,406	1,015	5	—	2,426
June	1,517	1,143	2	—	2,662
July	1,563	1,075	7	—	2,645
August	1,616	1,203	1	1	2,821
September	1,865	1,326	8	—	3,199
October	1,678	1,210	6	—	2,894
November	1,605	1,299	15	4	2,923
December	1,339	1,095	11	2	2,447
Total	18,131	13,269	96	18	31,514

(ii)—LADY HAVELOCK AND LADY RIDGEWAY HOSPITALS

The building of the New Children's Block which was started in 1948 has been completed. The necessary equipment is also available. The delay in going into occupation of this new building is due to the fact that the water service and drainage for this building are not ready. Detailed plans are now being studied for the construction of the O. P. D. and the Administration Block. It is expected that building operations will be started shortly.

An X'Ray plant is available but its installation is held up for lack of space.

An independent Telephone Exchange is similarly held up for want of space. It is expected that this equipment will be installed no sooner the new building is occupied.

The following Clinics are held at the Out-Patients' Department:—

2 Clinics a week by each of the Physicians attached to the Children's Hospital.
1 Clinic a week by the Surgeon attached to the Children's Hospital.
1 Clinic a week for Gynaecological cases by the Senior Medical Officer, O. P. D.

Venereal Diseases Clinic under the charge of an Assistant Medical Officer is kept open throughout the day. A separate report of the work of this Clinic is incorporated under the Section " Venereal Diseases ".

In May 1949 Dr. (Mrs.) Abeyaratne, Assistant Medical Officer, O. P. D., went on 3 months' leave preparatory to retirement. She had been holding this post since December, 1937.

In June, 1949, Professor Milroy Paul, went on a year's leave and Dr. L. N. Bartholomeusz was appointed to act for him.

In July, 1949, Dr. Stanley de Silva was appointed Visiting Physician to the Lady Ridgeway Hospital. This was a new post.

In August, 1949, Matron S. P. Samarasinghe was appointed Principal Matron and transferred to the Head Office. She was succeeded by Matron C. Muttumani from Kandy. In the same month Mrs. M. E. de Alwis, Chief Stewart, retired after 25 years' service.

In September, 1949, Professor P. B. Fernando, Physician, Lady Ridgeway Hospital, and Lecturer in Paediatrics to the Ceylon University for the past 12 years, was succeeded by Professor C. C. de Silva who was appointed to the newly created Chair of Paediatrics.

In October, 1949, Dr. J. H. L. Cumpston, Medical Advisor to the Ceylon Government, and Dame Catherine Watt, Chief Adviser to the Nursing Council in England paid a visit to the Hospital.

In November, 1949, the WHO T. B. Team and Professor Leiby, V. D. Expert, visited the Hospital. Dr. Cicely Williams, Maternity and Child Welfare Expert and Dr. Emslie of the National Health Council of London, visited the Hospital.

In December, 1949, the Paying Wards were closed to Maternity cases, and in the same month the annual Christmas Tree for the Children was held.

Professional Staff

(1) A Medical Officer in administrative charge of all the Institutions with 69 beds in the Lady Ridgeway Hospital.
(2) Visiting Physician and Gynaecologist.
(3) Professor of Paediatrics with a ward in the Lady Ridgeway Hospital.
(4) Professor of Surgery with a ward in the Lady Ridgeway Hospital.
(5) Visiting Physician to Lady Ridgeway Hospital (new appointment).
(6) Two Permanent House Officers.
(7) Four Honorary House Officers.
(8) Three Medical Officers at the O. P. D. and one Relieving Medical Officer.
(9) One Medical Officer at the V. D. Clinic.
(10) One Anaesthetist.
(11) One Laboratory Assistant.
(12) Five Apothecaries.

Nursing Staff

(1) A Matron.
(2) Three Nursing Sisters (Temporary).
(3) Two House-Keepers.
(4) One Assistant Sister Tutor.
(5) 12 Qualified Passed Nurses.
(6) 20 Temporary Emergency Nurses.
(7) 43 Swabasha Assistant Pupil Nurses.
(8) 12 Pupil Nurses from the Training School.

Lady Havelock Hospital

5,168 patients inclusive of 222 paying patients were treated during the year with a mortality rate of 1.3 per cent. The daily average was 151 with a bed strength of 46.

584 Surgical Operations were performed with a mortality rate of .8 per cent.

Lady Ridgeway Hospital

9,544 children were treated during the year with a mortality rate of 14.3 per cent. The daily average was 264 with a bed strength of 144.

352 Surgical Operations were performed with a mortality rate of 2 per cent.

V. D. Wards

704 patients were admitted for treatment with a mortality rate of 1 per cent. The daily average was 60, the bed strength being 48.

Out-Patients' Department

There were 98,689 cases with 197,202 visits.

Admissions

In the Lady Havelock and Lady Ridgeway Hospitals there were 14,324 new admissions besides 388 remaining over from the previous year. The total number of patients treated was—

Women	5,168	(222 paying)
Children	9,544	

Daily Average

Lady Havelock Hospital	151
Lady Ridgeway Hospital	264

In the Branch Hospital there were 704 new admissions, besides 32 remaining over from the previous year.

Total	736
Daily average	60

In the Out-Patients' Department there were 98,689 cases and 197,202 visits.

Surgical Operations

Havelock	584
Mortality rate	.8%
Ridgeway	352
Mortality rate	2%

Total Deaths

In the Lady Havelock Hospital and Lady Ridgeway Hospital there were altogether 1,440 deaths.

Havelock	74
Mortality rate	1.3%
Ridgeway	1,363
Mortality rate	14%
Branch	3
Mortality rate	.4%

Operations

Lady Havelock Hospital	584 —	5 deaths
Lady Ridgeway Hospital	352 —	8 deaths

The acute shortage of trained Medical and Nursing Staff is the chief difficulty with which this Institution is faced. It is hoped that the severe overcrowding that has prevailed will be relieved by the opening of the new block that has been built.

Negotiations are on foot with W. H. O. and U. N. I. C. E. F. to obtain trained Nursing Staff for Paediatric work in this institution and to grant Fellowships for two teams of local Nurses for training abroad in Paediatric work.

(iii)—DENTAL INSTITUTE

The present Dental Service was inaugurated in 1927 when the Dental Institute was built. The war period of 1939 to 1945 stopped all progress. Materials and personnel were lacking but this was gradually remedied in 1948, and the year under review—1949—may be termed a period of expansion of the Dental Service.

The Dental Institute after 10 years of disorganization due to the Second World War and its aftermath, entered its career of reorganization and improvement in 1949.

The staff was strengthened by the addition of two Visiting Dental Surgeons—one for teaching and the other for treatment. The number of House Officers was increased to six. An oral surgical department has been planned and it is hoped to commence building in 1950.

The following clinics are in operation outside Colombo:—

(1) Chilaw.
(2) Negombo.
(3) Anuradhapura.
(4) Panadure.
(5) Moratuwa.
(6) Mannar.
(7) Matale.
(8) Galle.
(9) Kegalla
(10) Kurunegala.
(11) Kandy.
(12) Jaffna.
(13) Badulla.
(14) Nuwara Eliya.
(15) Bandarawela.
(16) Batticaloa.
(17) Trincomalee.
(18) Ambalangoda.
(19) Kalutara.

The salient feature for 1949 is the emphasis on the School Dental Service and the prevention and control of caries in school children by fluoride treatment.

The programme for 1949 to 1950—

(*a*) Creation of a Research Section consisting of:—

The Medical Officer-in-Charge, Dental Institute,
Lecturer in Anatomy,
Professor in Pathology,

for the investigation as to the cause of malignant growth of the mouth in Ceylon.

(*b*) An Island-wide creation of a mechanical dental service to issue dentures to the needy poor.

(*c*) More intensive propaganda for the promotion of clean mouths in the poorest section of the community.

A start has already been made in these sections since October, 1949.

TABLE XV—NUMBER OF PATIENTS TREATED FROM 1927—1949

Year	*No. of Patients*	*Year*	*No. of Patients*
1927	9,990	1938	28,579
1928	11,893	1939	35,114
1929	13,755	1940	36,639
1930	14,815	1941	34,477
1931	12,133	1942	26,400
1932	16,931	1943	29,970
1933	19,899	1944	29,466
1934	19,684	1945	28,451
1935	27,973	1946	30,502
1936	26,513	1947	29,902
1937	25,198	1948	31,075
		1949	37,776

Classified Statistics, 1949

(A) Adults:

New Patients	35,054
Subsequent visits	40,140

(B) Children:

New patients	2,722
Subsequent visits	1,261

1. *Anaesthetic Section :*

Chloroform was administered for Dental operations to	81
Nitrous Oxide was administered for Dental operations to	218

2. *Surgical section:*

A.—*Adults*—

Extractions	35,743
Dental Cysts	125
Dressings	28,916
Scalings	2,282

B.—*Children*—

Extractions	2,648
Scalings	196
Dressings	522

3. *Conservation Section :*

Fillings	2,807

4. *Radiological Section :*

X'Ray cases	1,992

5. *Appliance Section:*

Splints made for fractured jaws	5
Plates for holding Radium Needles	30
Dentures supplied	256

6. *Patients Section:*

675 patients were admitted from the Dental Institute to the beds reserved for dental cases in Nos. 2 and 19 wards of the General Hospital.

Dental Institute—Total figures for 1949.

37,776 patients, including children, were treated during the year.
The total visits made by the patients is 79,177.

Indoor patients attending for dental treatment from the General Hospital, Colombo 5,060

Collections:

Outdoor collections including Dentures	Rs. 637.80

TABLE XVI—OUTSTATION CLINICS

Name of Clinic	Cases of					
	Total	Extractions	Dental Cysts	Dressings	Scalings	Filling
1. Chilaw	944	848	—	79	17	—
2. Negombo	2,555	2,222	—	319	14	—
3. Anuradhapura	1,750	1,187	—	548	9	6
4. Panadure	3,743	3,265	—	385	93	—
5. Moratuwa	2,767	2,426	—	266	75	—
6. Mannar	607	400	—	193	14	—
7. Matale	636	458	—	102	76	—
8. Galle	12,858	8,343	60	2,888	535	1,032
9. Kegalla	1,198	1,065	—	115	18	—
10. Kurunegala	2,638	2,309	2	250	77	—
11. Kandy	19,129	10,822	—	7,140	580	587
12. Jaffna	19,094	6,566	14	6,157	6,222	135
13. Badulla	1,964	985	—	657	147	175
14. Nuwara Eliya	979	441	—	339	91	108
15. Bandarawela	1,114	556	—	395	84	79
16. Batticaloa	2,337	2,028	—	288	15	6
17. Trincomalee	781	520	—	251	8	2
18. Ambalangoda	1,969	1,685	—	269	15	—
19. Kalutara (opened in December, 1949)	Figures not available at the time of writing					

(iv)—THE VICTORIA MEMORIAL EYE HOSPITAL

The most serious problem in this Institution is the acute overcrowding which prevails. Preliminary investigations have been made to construct a new block for the Eye Hospital in the land across Regent Street. Action is being taken to acquire the land for this purpose.

Staff.—Special mention has to be made of the assumption of duties as Ophthalmic Surgeon of the Viennese Specialist, Dr. Andrew von Fesus.

The major staff remains the same as last year—the following being the officers:—

(1) Surgeon-in-charge.
(2) Two Visiting Surgeons.
(3) Viennese Eye Specialist.
(4) Refractionist.
(5) Three House Surgeons.
(6) Two Apothecaries.
(7) Matron.
(8) Laboratory Assistant.
(9) One Steward.
(10) Five Hospital Clerks.
(11) One Overseer.
(12) Twenty Nurses.

The minor employees consist of:

26	Male Attendants.
20	Female Attendants.
1	Seamstress.
3	Nurses' Ayahs.
6	Cooks.
18	Hospital Labourers.
7	Pantry Labourers.
1	Gatekeeper.
2	Hospital Orderlies.
1	Office Orderly.
1	Hall Porter.
1	Barber.
2	Watchers.

The work done at the Institution may be considered under the following headings:—

(1) Out-Patients' Department.
(2) In-Patients.
(3) School Clinics.
(4) Visits to the Leprosy Hospital.

(1) *Out-Patients' Department.*—The number of Out-Patients is increasing daily as shown by the following figures:—

	1947	*1948*	*1949*
Number of Patients	92,039	99,562	108,533

(2) *In-Patients.*—The number of In-patients is increasing as shown by the following figures:—

	1947	*1948*	*1949*
Number of Patients	3,786	4,535	5,647

(3) *School Clinics.*—The total number of First Visits to the Clinic was 453. A table showing the different diseases treated at this Clinic is appended:

TABLE XVII.—STATEMENT OF DISEASES TREATED AT THE SCHOOL CLINIC, V. M. EYE HOSPITAL, DURING THE YEAR 1949

Lids—	
Hordeolum	6
Blepharitis Squamosa	10
Meibomian Cyst	2
Abscess	1
Conjunctiva—	
Conjunctivitis—Acute	25
Chronic	6
Follicular	62
Phlyctenular	6
Traumatic	9
Pterygium	1
Trachoma	1
Mucopurulent Ophthalmia	—
Phtheriasis	3
Phthisis Bulbi	1
Contusis Bulbi	—
Zerophthalmia	12
Cornea—	
Foreign Body	—
Leucoma	2
Keratitis	5
Errors of Refraction—	
Anisometropia	3
Emmetropia	49
Hypermetropia	20
Compound Hypermetropic Astigmatism	12
Simple Hypermetropic Astigmatism	38
High Myopia	8
Simple Myopic Astigmatism	77
Myopia	29
Presbyopia	—
Ciliary Spasm	—
Amblyopia Exanopsis	—
Muscles—	
Concommittent Convergent Strabismus	4

Lachrymal Apparatus—	
Fibro Lipoma of the Lacrymal gland	—
Lacrymal Abscess	—
Other Diseases	15
Treatment not completed	51
Total	453

(4) *Visits to the Leprosy Hospital.*—Unlike in previous years each Surgeon goes to the Leprosy Hospital, Hendela, once a fortnight.

With a view to relieving the overcrowding as well as affording specialist facilities to patients nearer their homes arrangements are being made to organize specialist Eye Clinics which will be visited on fixed dates by the Eye Surgeons from Colombo. It is proposed to make a start with such clinics at the Panadure and Negombo Hospitals and with the experience gained to extend them to other larger district hospitals.

TABLE XVIII—STATEMENT OF MAJOR OPERATIONS PERFORMED AT THE V. M. EYE HOSPITAL DURING THE YEAR 1949

1. Extraction of Cataractous Lens—	
(a) In Capsule:	
(1) Without Iridectomy	1,145
(2) With Partial Iridectomy	
(3) With Total Iridectomy	
(b) Extra Capsular:	
(1) Without Iridectomy	
(2) With Partial Iridectomy	
(3) With Total Iridectomy	
(c) Linear Extraction of Lens	
2. Needling of Capsule	343
3. Removal of Capsule	—
4. Needling of Lens	226
5. Curette Evacuation	19
6. Preliminary Iridectomy	4
7. Corneal Scleral Trephining	68
8. Glaucoma Iridectomy	—
9. Optical Iridectomy	64
10. Excision of prolapsed Iris	56
11. Stroking down of Iris	—
12. Enucleation	78
13. Magnet extraction of Intra-ocular foreign body	9
14. Extirpation of Lachrimal Sac	32
15. Plastic Operation of Lids	1
16. Removal of foreign body of Cornea	11
17. Evisceration	11
18. Removal of Epibulbar Growths	12
19. Diarthermy	—
20. Sclerotomy	—
21. Staining of Cornea	16
22. Intra orbital Abscess	—
23. Iridectomy	39
24. Transplantation of Pterygium	20
25. Squint	2
26. Probling of Lac. Sac	6
27. Cautery of Prolapsed Iris	10
28. Other Operations not classified above	140
Total	2,312

TABLE XIX—STATEMENT OF MINOR OPERATIONS PERFORMED AT THE V. M. EYE HOSPITAL DURING THE YEAR 1949

1.	Translation of Pterygium	—
2.	Incision of Chalazion	166
3.	Removal of Foreign body from Cornea & Conjunctiva	1,410
4.	Incision of Hordeolum	208
5.	Extirpation of Lac. Sac	—
6.	All other Minor Operations	75
	Total ...	1,859

TABLE XX—INDOOR STATISTICS FOR 1949

Diseases of the Conjunctiva :	
Phlyctenular Conjunctivitis	123
Chronic Catarrhal Conjunctivitis	303
Membranous Conjunctivitis	71
Angular Conjunctivitis	45
Opthalmia Neonatorum	3
Traumatic Conjunctivitis	47
Pterygium	14
Trachoma	2
Diseases of the Lachrymal Apparatus :	
Acute Dacryocystitis	11
Chronic Dacryocystitis	17
Chronic Mucocoele	2
Suppurative Abscess	3
Diseases of the Cornea :	
Phthisis Bulbi	24
Kerotomalacia	23
Nebula	4
Leucoma	143
Anterior Staphyloma	13
Pthisis Cornea	24
Abscess of Cornea	14
Keratitis Superficialis	17
Ulcer of Cornea	323
Keratitis Interstitial	14
do Macular	53
do Phlyctenular	36
do Superficialis Tropica	521
do Traumatic	64
Diseases of the Sclerotic :	
Scleritis	4
Diseases of the Iris :	
Prolapse of the Iris	23
Acute Iritis	54
Chronic Iritis	26
Iridocyclitis	67
Cyclitis	24
Diseases of the Optic Nerve :	
Optic Neuritis	27
Papillitis	2
Retro Ocular Neuritis	5
Optic Atrophy	56
Herpes Ophthalmia	8
Glaucoma :	
Acute Glaucoma	72
Chronic Glaucoma	102
Affections of the Whole Eyeball :	
Panophthalmitis	15
Endophthalmitis	4

Refraction Cases :

Emmetropia	124
Amblyopia	3
Hypermetropia	24
Myopia	22
Presbyopia	134
Myopic Astigmatism	12
Mydriasis	4

Diseases of the Eye Lids :

Cellulitis of Lids	3
Subjunctival Ecchymosis	2
Blepharitis Squamosa	51
Blepharitis Ulcerosa	23
Blepharitis	42
Meibomiam Cyst	11

Diseases of Retina and Choroid :

Central Choroiditis	3
Retinitis Pigmentosa	37
Retinoblastoma	3

Diseases of the Lens :

Aphakia	32
Cataract	2,324
Cataract Complicated	27

(v)—INFECTIOUS DISEASES HOSPITAL

The Infectious Diseases Hospital serves the whole Island in general and Colombo District in particular and all cases of infectious diseases, both major and minor, are admitted and treated here.

No important changes in the staff employed have taken place since last year. Extensions to the buildings, however, have been carried out in the form of constructions of two new wards to accommodate 24 beds. The water supply to these two new wards have not yet been effected, and therefore the wards have not yet been used. A temporary emergency Air Passengers Ward has been provided for which the necessary furniture has still to be provided.

The staff consists of one Medical Officer in Charge, one House Officer, two Apothecaries, one Matron, six Nurses, one Steward, one Overseer, one Dispensary Orderly, thirty-four male and female Attendants, 31 Labourers, 3 Watchers, 3 Gatekeepers, 4 Cooks, one Boilerman, one Nurses' Ayah and one Laundry Contractor. During the season of epidemics which occurs from December to May of the following year, and particularly during the months of February, March and April, the present staff is quite inadequate.

Of the cases treated there were—

(*a*) Typhoid	16 cases were treated as against 21 during the previous year with two deaths.
(*b*) Typhus	No cases were admitted.
(*c*) Dysentery	A total of 580 as against 248 of last year. Of these 209 were of Ameobic origin, 259 of Bacillary and 112 undefined and other cases. The number of deaths from Dysentery was 32.
(*d*) Colitis	A total of 513 as against 864 of last year. Number of deaths 38.
(*e*) Diphtheria	127 cases admitted and treated as against 165 of last year. 14 deaths occurred among these cases. Penicillin was the main drug used with A. D. Serum. Benerva was given in the recovery stages.

(*f*) Acute - Poliomyelitis	23 cases admitted and treated as against 36 of last year. There were 3 deaths. Benerva was largely used in the form of injections and tablets and Penicillin in a few acute cases.
(*g*) Small-Pox	One case of Small-pox was admitted and treated. This case did not occur in Ceylon but was landed off a Dutch ship. Penicillin was used in the treatment of this case with very gratifying results. Sulpha drugs were also given in conjunction with Penicillin and this treatment altogether eliminated any toxaemia and modified the severity of the rash to a great extent.

Penicillin and Sulpha drugs were also used successfully in severe cases of Chicken-pox and cases of Mumps and Measles in which there were secondary complications. For Dysentery, Enteritis and some cases of Typhoid Fever, Sulphaguanidine was used in large doses with encouraging results.

The total number of cases treated for the year 1949 was 4,545 with a total of 109 deaths as against 3,586 cases of the previous year with 59 deaths.

(vi)—MEDICAL RESEARCH INSTITUTE

Dr. A. Nimalasuria, Director, retired from service at the end of February, 1949, and was succeeded by Dr. L. B. E. Seneviratne, Specialist Officer in Bacteriology. Dr. S. H. Jayawickrama assumed duties as Specialist Officer in Entomology on March 1, 1949. Dr. E. E. Schmid, one of the Viennese Specialists, was appointed to this Institute on September 26, 1949, and has been placed in charge of the Serology and Clinical Bacteriology Sections. Messrs. G. C. N. Jayasuria, J. J. Rajanayagam and F. S. C. P. Kalpage were appointed Research Officers to this Institute in October, 1949. Messrs W. R. de Silva and T. Velaudapillai, Laboratory Assistants, were appointed as Research Officers (Bacteriology). A Librarian was appointed on August 1, 1949. Dr. K. G. B. Stork returned from the United Kingdom. He has obtained the Diploma in Bacteriology (Manchester) and D. T. M. & H. (England) and has followed a course on Virus Diseases. Dr. Stork is placed in charge of the Calf Lymph, Pasteur, Virus and Vaccine Sections.

The following officers were sent to the United Kingdom for higher studies:—

Dr B. T. Jayasekera (Bacteriology).
Dr. R. P. Jayawardena (Medicine).
Dr. (Miss.) L. Candiah (Pathology).
Mr. R. L. Wickramasinghe, Research Officer (Immuno-Chemistry).

One Medical Officer was transferred elsewhere in December, 1949. Dr. I. S. M. Fernando filled one of these vacancies. Mr. K. Vallipuram, Special Grade Laboratory Assistant, retired on November 12, 1949, after 36 years of service at this Institute.

A Laboratory Assistant was sent for training at various Medical Research and Vaccine Institutes in India.

Buildings and Extensions

The new extensions to the Institute providing much needed laboratory space were taken over from the Public Works Department in May, 1949. This has by no means solved the problem of congestion at this Institute and the question of taking back the land now occupied by the Marketing Department for the erection of the proposed three-storeyed block is receiving the attention of the Ministry. Meanwhile, the question of providing additional accommodation for laboratory animals, store accommodation, workshop, additional garage accommodation and an insectarium for the Entomology Division should be considered as an urgent necessity.

An immediate necessity is the provision of an insectarium for the Entomology Division, proper store accommodation and suitable animal house in keeping with the increasing requirements of this Institute. At present breeding is unsatisfactory on account of overcrowding and easy spread of infection among animals. There is also inadequate garage accommodation. Plans for a cold room for the Institute are receiving the consideration of the Director of Public Works.

Miscellaneous

The following representatives of W. H. O., F. A. O., and U. N. I. C. E. F., visited this Institute and were shown its activities:—

Dr. Martha Elliot.
Dr. Orkney.
Dr. Sen.
Dr. Narasinga Rao.
Dr. David Dao.

Others who visited the Institute were:

Dr. J. H. Cumpston, Medical Adviser, and
Dr. Naterajan, Deputy Director of Health, Mysore State.

The Director of the Medical Research Institute or his representative served on the following committees:—

1. National Committee on Vital and Health Statistics.
2. Venereal Diseases Committee.
3. Zoological Gardens Advisory Committee.
4. Committee on the Teaching of General Science in Schools.
5. Departmental Committee on Filariasis.
6. Food Yeast Committee.
7. Patents Advisory Committee.
8. Diet. Sub-Committee of the Advisory Board, General Hospital, Colombo.
9. Advisory Board of General Hospital, Colombo.
10. Food and Drugs Committee.
11. Talwatte Model Village Committee.

DIVISION OF BACTERIOLOGY

Serology Section :

Blood and cerebro-spinal fluids for W. R.	45,454
Blood and cerebro-spinal fluids for Kahn Test	58,721
Blood and cerebro-spinal fluids for Cardiolipin	58,721
Blood for Standard Agglutination Tests	9,819
Blood for Weil Felix Reaction	9,819
Blood for Henry's Test	15
Blood for Paul Brunnel Test	11
Blood for Widal Test	1,585
Blood for other agglutination tests	2
Total ...	184,147

Research—Venereal Diseases Sections

Trials with Cardiolipin antigen were continued this year. An evaluation of W.R. and Kahn and Cardiolipin tests was made on the bloods from Venereal Diseases Clinic, General Hospital, Colombo.

TABLE XXI—POSITIVE SEROLOGICAL RESULTS

	Total	*W.R.*	*Kahn*	*C.L.*	*W.R. and Kahn*	*W.R. and C.L. and*	*Kahn C.L.*
Syphilitic ...	1239	1059 85%	1050 84.7%	1082 87.3%	1009 81.4%	1022 82.5%	1049 84.7%
Non-Syphilitic ...	1484	218 14.7%	43 2.9%	56 3.8%	39 2.6%	44 3.0%	40 2.7%

The patients were diagnosed syphilitic and non-syphilitic on the clinical conditions and evaluations were made on the blood tests when the patients visited the clinic for the first time. Cardiolipin test gave more positive results in syphilitic cases; W. R. gave more false positive results in non-syphilitic cases; combination of Khan and Cardiolipin tests gave more specific and sensitive results.

Table XXII—Cases undergoing treatment—Syphilitic and Non-syphilitic Positive Serological Findings

	Total	*W.R*	*Kahn*	*C.L.*	*W.R. and* Kahn	*W.R. and* C.L.	*Kahn* & C.L.
Syphilitic ...	5297	3380 63.8%	3637 68.7%	3781 71.4%	3187 60.2%	3257 61.5%	3578 67.5%
Non-syphilitic ...	2776	403 14.5%	115 4.2%	123 4.4%	116 4.2%	114 4.7%	109 3.9%

The percentage in positive cases undergoing treatment is nearly the same as in untreated cases. Cardiolipin test is positive for a longer time in treated cases of syphilis. Of the combinations, Kahn and Cardiolipin tests gave a higher percentage of positive results.

As a result of these findings W.R. is now done as a routine test. W.R. is done in Medico-Legal cases and in cases where special research work is done. Ordinary samples are treated for Khan and Cardiolipin tests. These tests are easy to perform and could be completed in about 15 minutes.

Progress of the treated syphilitic cases are being checked by quantitative Cardiolipin tests. For the present these tests are done on the samples from Venereal Diseases Clinic, General Hospital, Colombo, and Lady Havelock Hospital.

Routine

Table XXIII—Clinical Bacteriological Section

Urine for Culture	1,445
Pathological fluids	661
Blood for Culture	356
Vaginal and Cervical Swabs	568
Throat and Nasal Swabs	4,614
Cholera Specimens	373
Friedman's Test	9
Dressings	58
Foodstuffs	20
Rice, Flour, &c.	169
Other examinations	23
Sputum for T. B. Microscopically	4,341
Sputum for T. B. Culturally	1,394
Urine for T. B. Microscopically	29
Urine for T. B. Culturally	27
Specimens for Guinea-pig inoculation	5
Faeces for T. B. Microscopically	25
Faeces for T. B. Culture	19
Fluids for T. B. Microscopically	66
Fluids for T. B. Culture	60
B. Leprae	27
Fæces for B. Typhosus	558
Fæces for Dysentery	513
Fæces for all organisms	270
Blood clot Culture	10,112

Venereal Diseases Specimens

No. of smears examined for Gonococci	9,850
No. of smears positive for Gonococci	494
No. of smears negative for Gonococci	9,356
Cultural examination for Gonococci	33
No. of smears examined for other organisms	16
No. of smears examined for spermatozoa	47
Sera examined for Treponema pallidum	115

Bacteriological Examination of Water

No. of water samples examined	1,209
No. of water samples that showed faecal pollution	572
No. of water samples that showed faecal pollution by routine method (37°C)	333
No. of water samples that showed faecal pollution by Eijkman's ...	517
No. of water samples that showed faecal pollution by both methods ...	278
No. of water samples that showed faecal pollution by Eijkman's test but were not positive by Routine test ...	239
No. of water samples that showed faecal pollution by routine but were not positive by Eijkman's	55

Bacteriological Examination of Foodstuffs

The Food Laboratory was established in October, 1949, for the bacteriological examination of foodstuffs under the Pure Food and Drugs Act of 1949.

Routine Work

The number of samples of foodstuffs received for examination during the three months of the year after the opening of the laboratory was only 23. The particulars pertaining to these samples are as follows:—

Source	*Nature of Sample*	*Number*
Government Analyst ...	Tinned Food (Corned Beef) ...	3
Director of Fisheries ...	Dried Fish	19
Deputy Food Controller, Colombo	Rice	1
		23

Special Investigations

An investigation into the bacteriological quality of market milk supplied to the City of Colombo was started. Samples for examination were brought from dairies, vendors and hotels. A total of 16 samples was examined.

Research Bacteriology and Serology for Salmonella

All specimens of blood received for Standard Agglutination are being cultured and the isolated Salmonella are being grouped and identified serologically.

Urine Cultures

All specimens of urine received for culture showing the presence of streptococci were grouped under haemolytic and non-haemolytic types. So far during the last six months no haemolytic streptococci have been isolated from urine.

Diphtheria

Typing and Virulence test on all positive cases were continued. After making the necessary cultures, all the swabs were smeared and examined for Vincent's organisms, since November, 1949.

Sputum

All specimens received for examination were cultured for evidence of Tubercle bacilli and all positive cultures were tested for identification of human and bovine strains.

DIVISION OF MYCOLOGY

Routine

Number of specimens examined	179
Number of specimens positive for pathogenic fungi ...	133

Condition	*Total No. Examined*	*Positive*	*Remarks*
Tinea Cruris ...	93	73	Epidermophyton rubrum is the common cause of Ringworm in Ceylon.
Tinea imbricata	3	2	
Cocogenic sycosis	2	—	
Tinea pedis ...	1	1	
Tinea unguium	3	3	Aspergillis, a yeast Epidermophyton rubrum.
Tinea capitis ...	2	1	
Maduramycosis	1	1	
Bronchomonitrasis	5	4	
Actinomycosis	3	2	
Otomycosis	1	1	
Pigmentary affectors	4	3	
Ulcers	3	3	
Granulomatoms condition	1	1	
Dermalmoniliasis	2	2	
Alpoecia areata	2	1	Yeast? contamination occasionally the morphology of the fungus does not appear to be typical of the genus mallessezia.
Tinea Versicolar	19	19	
Nail deposit	2	—	
Faecal and vomit deposits of the house flies	25	9	
Soils from paddy fields	5	5	
Pompholyx	2	2	(of fungal origin)
	179	133	

Source of Specimens

Most of these were from the patients of the skin clinic of the General Hospital.

Investigation and Research

An Island wide survey of fungus disease in Ceylon has been started.

The results of a preliminary survey of dermatophytoses in general and Tinea versicolar in particular are as follows:—

Families	*Number of Individuals examined*	*Tinea ver. Present*	*Other dermatophytoses Present*
House to house visits, 12 ...	71	—	—
Adult Individuals selected at random	82	20	—
Children	217	17	—
Total ...	373	37	—

DIVISION OF VIRUS DISEASES

Pasteur Institute

With the opening of the extensions to the present building this section moved into two of the new rooms during the year.

One of the rooms is used solely for the inoculation of patients attending for anti-rabies treatment, T. A. B., anti-cholera and Yellow Fever vaccines and the other for preparation of anti-rabies vaccine and laboratory examinations of brains for rabies. This has relieved to some extent the unsatisfactory arrangements which existed previously from inadequate accommodation when all the activities of the section were carried on in a single room.

Work done :

The preparation of anti-rabies vaccine has been maintained as in previous years.

Vaccine is now issued to all out-station hospitals where facilities for storage of vaccine in refrigerators are available.

Statement of vaccine prepared and Inoculations given

Anti-rabies vaccine prepared	596 litres
Anti-rabies vaccine issued for the use outside the Institute ...	324.8 litres

Number of Patients given Pasteur Treatment at the Institute

Northern Province	2
Southern	20
Eastern	—
Western	2,670
Central	6
North-Western	11
North-Central	15
Sabaragamuwa	52
Uva	—
Total ...	2,776

Daily average attendance of patients	81
Other inoculations given—Anti-typhoid, Cholera, &c. ...	4,382
Yellow Fever Vaccine	287

Laboratory Examinations of Dogs' Brains for Rabies

Province	*Positive*	*Negative*	*Unfit for Examination*	*Total*
Western ...	270	178	64	512
Central ...	38	56	15	109
Sabaragamuwa	7	7	5	19
Uva ...	—	—	—	—
Northern ...	16	5	4	25
North-Western	14	9	6	29
North-Central	—	1	3	4
Southern ...	15	12	5	32
Eastern ...	—	3	1	4
Total ...	360	271	103	734

Includes—

Cat	21 ...	4 positive
Cow	3 ...	1 positive
Goat	2 ...	1 positive
Jackal	2 ...	1 negative 1 unfit
Human	1 ...	1 unfit
Monkey	1 ...	1 positive

Vaccine Section

The section moved into one of the new rooms of the extensions during the latter part of the year.

With the increase in strength of the anti-cholera vaccine now prepared (8,000 million organisms per cc) the dosage has been altered to 0.5 cc and 1 cc for the first and second inoculations respectively.

Routine :

Quantities of Viccine prepared and issued

	Balance from 1948	*Prepared in 1949*	*Issued in 1949*	*Discarded in 1949*	*Balance up to 31.12.49*
T. A. B.	26,476 cc	207,100 cc	204,740 cc	Nil	28,836 cc
Anti-Cholera	49,154	23,500	33,565	30,744	8,345
G. C.	334	1,500	1,250	Nil	584
Anti-Plague	87	2,500	771	Nil	1,816

Auto Vaccines prepared and issued 119
Sterility tests done on Pharmaceutical preparations .. 619

Requirements—

1. Cold room for storage of vaccine is necessary.
2. Dust-proof air-conditioned room for preparation and ampouling of vaccines.

Calf Lymph Section

One Laboratory Assistant was sent to India for further training in the work of this Section.

With the installation of new triturating machines and the use of a Waring-Blender in the preparation of lymph the process of hand grinding and sieving of the lymph has been done away with, thus improving the quality of the lymph.

The fortnightly shipments of seed lymph from the United Kingdom have now been discontinued as we prepare our own seed lymph of high potency.

The new technique of phenolising lymph as carried out at the Lister Institute was tried and investigations into the keeping qualities of the phenolised lymph were made.

The atmospheric temperature of the Tropics being far higher than that in the United Kingdom, it was necessary to investigate the effect of our temperatures on the potency of the lymph after issue from the Institute.

The effect of phenol on the potency of the lymph in cold storage was investigated.

One batch of phenolised lymph was kept in cold storage three months after preparation and all tests carried out showed no deterioration in potency.

Further tests at three-monthly intervals up to one year will be carried out during the next year.

The main advantages in this new method of preparation are:

(1) We now obtain a lymph which is practically free of bacteria thus giving no secondary reactions after vaccination.

(2) Prolonged cold storage for 6 to 12 months to reduce bacterial counts to the standards is not required now.

The lymph can be ground, all tests carried out and be ready for issue within about two or three weeks of preparation which is a great advantage in times of epidemic.

A further improvement in the preparation of lymph introduced during the year was the use of antiseptic soap (a mixture of soft soap, ether and alcohol) in preparing the area for vaccination of the calves and for washing the lesions formed prior to collection of pulp, thus rendering the collection of material more free of contaminants.

This procedure has no inhibitory action on the development of the vesicles nor any deleterious action on the lymph itself.

The collection of pulp is now done 120 hours after inoculation.

Routine :

Statement of Calf Lymph prepared and issued

Doses in stock on 1.1.49	2,476,942 (approx.)
Doses prepared during the year	1,074,024
Total	3,550,966 (approx.)
Doses issued	504,486
Doses in stock on 31.12.49	3,046,480 (approx.)

Number of cases vaccinated by the Vaccinator at the Medical Research Institute:

Primary vaccinations	240
Re-vaccinations	2,136
Total	2,376

Further investigations will be carried out on the phenolised preparations of lymph and during the course of this year we may decide in giving up the old method of calf lymph preparation and of adopting the phenolised preparation.

Improvements Recommended—

(1) Cold room for storage of lymph.
(2) Dust-proof air conditioned room for preparation of lymph and filling of containers.
(3) Tilting tables for vaccination of calves.
(4) Insecticide dip for calves.
(5) Overhead system of water pipes for washing calves in preparation for vaccination.

Virus Diseases Investigations

A laboratory for investigation of virus diseases was opened during the year. The adaptation of vaccinia virus on the chorioallantoic membrane of the developing chick embryo is being carried out.

Requirements

The provision of an animal house with separate cubicles for housing inoculated animals for investigation of virus infections.

DIVISION OF BIOCHEMISTRY

This now consists of three main sections:

(1) Biochemical.
(2) Pharmaceutical.
(3) Media.

Routine Preparations

The work of the Media and Pharmaceutical Sections has increased considerably. Owing to a temporary shortage of Glucose Saline, Saline and Glucose preparations for intravenous injections, this Institute was called upon to supply increased quantities of these preparations to the Lady Havelock Hospital and Civil Medical Stores.

A comparison of the output during the first and second half of the year shows the increasing activity of these sections.

Media Section

Half-Yearly Report—1949

	January to June	*July to December*
Bile Medium tubes	5,210	5,405
Cooked Meat Medium tubes	1,137	1,789
Claubergs Medium plates	467	408
Chocolate Agar tubes	567	1,283
Cholera peptone water tubes	349	90
D. Agar tubes	1,410	650
Dc. Agar tubes	161	—
Dorset's Egg Medium	—	374

	January to June	*July to December*
Glucose Agar tubes	388	2,437
Glucose Broth tubes	463	421
Kligler's ironmedium tubes	—	176
Gosser's Citrate tubes	2,445	3,857
Litmus Lastose tubes	1,481	2,429
Litmus Lactose Agar plates	1,639	296
Litmus Saccharose tubes	472	776
Litmus Glucose tubes	1,866	4,074
Litmus Dulcite tubes	—	245
Litmus Mannite tubes	790	1,124
Litmus Adonite tubes	—	325
Lemco Broth tubes	3,639	7,083
Lemco Agar (Roux flasks)	885	1,196
Lemco Agar (ordinary flasks)	88	15
Lemco Agar stabs	138	707
Lemco Agar plates	85	—
Lemco Agar slopes	4,054	6,245
Lowenstein—Patrick Medium tubes	490	1,767
Mac Leod's Medium plates	62	17
Mac Conkey's Agar plates	267	148
Mac Conkey's Broth (S)	6,195	11,147
Mac Conkey's Broth (D)	3,132	5,278
Methyl Red Tubes	2,530	3,911
Maltose Agar tubes	91	—
Normal Saline tubes	64	20
Neill's Agar plates	12	30
Potato Medium tubes	—	303
Peptone Water tubes	3,201	2,501
Phenol Agar tubes	45	18
Rectal Swabs	550	—
Rosalic Acid Agar plates	21	—
Saponin Citrate tubes	181	313
Salicin	—	362
Serum sugars	—	570
Streptomycin agar	Total of 690 tubes were prepared for the year	
Sabouraud agar tubes	—	72
Serum slopes	2,189	4,261
Throat swabs	1,818	5,447
Vi agar tubes	—	109
Urea Medium	—	254

Pharmaceutical Section

Half-Yearly Report—1949

	January to June	*July to December*
Distilled water (Pyrogen free) in 10 cc ampoules	4,790	5,495
Glucose Saline in 300 cc bottles	—	700
Glucose Saline in 500 cc bottles	180	479
Grape Sugar 5% (for oral use) in 500 cc bottles	42	—
Grape Sugar 5% (for oral use) in 300 cc bottles	—	46
Grape Sugar 25% (for oral use) in 25 cc ampoules	—	5,065
Grape Sugar 50% (for oral use) in 10 cc ampoules	1,015	—
Hartman's solution (for oral use) in 300 cc bottles	—	49
Hartman's solution (for oral use) in 500 cc bottles	114	197
Hartman's solution (for parenteral use) in 50 cc ampoules	222	801
Normal Saline 0.85% (for laboratory use) in 500 cc bottles	536	492
Normal Saline 0.85% (for laboratory use) in 2,500 cc bottles	2	—
Normal Saline 0.85% (for vaccine preparation) in litres	353	490
Normal Saline 0.9% (for laboratory use) in 500 cc bottles	284	170
Normal Saline 0.9% (for parenteral use) in 50 cc ampoules	1,964	2,760
Normal Saline (for parenteral use) in 300 cc bottles	—	162
Normal Saline (for parenteral use) in 500 cc bottles	—	1
Penicillin cream in grams	750	500
Sodium Citrate 3.8% (for parenteral use) in 50 cc ampoules	2,584	—
Sodium Citrate 10% (for parenteral use) in 25 cc ampoules	—	132
Sodium Citrate 25% (for parenteral use) in 10 cc ampoules	260	—
Sodium Citrate 25% (for parenteral use) in 25 cc ampoules	—	70
Sodium Citrate 25% (for parenteral use) in 50 cc ampoules	—	183

	January to June	*July to December*
Sodium Sulphate 4.285% (for parenteral use) in 50 cc ampoules	189	255
Sodium Thiosulphate 10% (for parenteral use) in 5 cc ampoules	310	—
Sulphetrone in litres	5½	2
P.P.D. for Mantoux Test—		
Test 1 in 10 cc bottles	—	56
Test 2 in 10 cc bottles	—	102
Test 3 in 10 cc bottles	—	9

Several improvements have been made in the Pharmaceutical Section. In the course of this year it was observed that a considerable number of preparations for parenteral use had to be rejected because of particles in the solution. This has been overcome by an improved technique and suitable modifications, one of which was an alteration of the pressure used during autoclaving. It is suggested that some of these preparations should be undertaken in a separate institution on a larger scale to meet the full requirements of the Medical Department.

The Biochemical Section has produced 8,140 ounces of Meat Digest with Yeast and 3,840 ounces of Yeast extract for use in hospitals. These have been mostly used by Lady Havelock Hospital, Lady Ridgeway Hospital, General Hospital and Civil Hospital, Kandy.

Routine Tests :

Blood Glucose	121 samples
Blood Urea	47 samples
Plasma Proteins	28 samples
Blood Calcium	6 samples
Blood Potassium	2 samples
Urine Sugar	1,937 samples
Urine Calcium Oxalate	1,005 samples
Urinary Hippuric Acid	3 samples

Original Investigations

Attention was chiefly concentrated on three main problems, namely:

(1) Micro-Biological Assay of Vitamins.

(2) Indigenous Drugs in the treatment of Diabetes mellitus.

(3) Diabetic Survey of Ceylon.

Using Lactobacillus Casei 6375, the Riboflavin content was determined on a number of vegetables and fruits. The results of these investigations are tabulated below:

RIBOFLAVIN CONTENT OF SOME COMMONLY CONSUMED ARTICLES OF DIET

(All values stated in grams per 100 gms. fresh material.)

(1) *Leaves :*

Botanical Name	*Sinhalese or English Name*	*Riboflavin Content*
Camellia Theifera	Tea (B. O. P.)	590
Moringa peterygosperma	Murunga	580
Sesbania Grandiflors	Kathurumurunga	579
Alternanthera Sessilis	Mukunuwenna	375
Enythrina Indica	Erabadu	287
Amaranthus Gangeticus	Thampala	269
Ipamoea Aquatica	Kankum	248
Centella Asiatica	Gotukola	175
Basella rubra	Nivithi	160
Noerhavia diffusa	Sarana	148
Brassica Oleracea	Cabbage	32

Botanical Name	*Sinhalese or English Name*	*Riboflavin Content*
A cup of tea contains 28 micrograms of Riboflavin.		
(2) *Fruits:*		
Feronia elephantum	Dimbul	60
Lycopersicum esculantum (ripe)	Takkali	41
Cocurbita Maxima	Wattaka	41
Musa Sapientum	Kolikuttu	32
Musa Sapientum	Alukehel	20
Musa Sapientum	Embul	18
Trichosanthes Anguina	Pathola	25
Momordica Charantia	Karawila	62
Payapa Carica	Papol	28
Cucurmis Sativus	Pipinja	26
Moringa Pterygosperma	Murunga	21
Citrus Aurantium	Oranges	20/100 cc juice
(3) *Flowers:*		
Sesbania Grandiflora	Kathurumurunga	71

It was observed that Murunga leaf (*Moringa Oterygocperma*) and Kathurumurunga leaf (*Sesbania Grandiflora*) were exceptionally good sources of this vitamin. The high value for tea was due to the fact that the estimation was made on the dried leaves. The riboflavin content of starch containing foods cannot be satisfactorily assayed by this method and an alternative fluorimetric procedure is being used to determine the riboflavin content.

Indigenous Drugs

A number of drugs used in indigenous medicine for the treatment of diabetes was investigated using normal and diabetic rabbits. It was presumed that these drugs if they have any effect should have either (*a*) an effect identical with insulin or (*b*) a regenerative effect on the Beta cells of the pancreas.

To test insulin like activity, the drugs were administered orally to fasting normal rabbits and any hypoglyoramic effect was followed by blood sugar determination. To ascertain the regenerative effect on the islets of the pancreas the drugs were given orally for several days to alloxan diabetic rabbits and blood sugar determinations were made at suitable intervals. The following plants and drugs have so far been investigated:—

(1) Minimal leaves (*Vinca Rosca*).
(2) Gammalu resin and bark (*Petrocarpus Marsupium*).
(3) Two local preparations.
(4) Diabetoan Indian preparation.

The results obtained so far indicate that none of these preparations has either an insulin like activity or a regenerative effect on the Beta cells of the pancreas. When Minimal was being investigated, an attempt was made to isolate some of the characteristic constituents of this plant. Early literature referred to an alkaloid in this plant and its poisonous property was attributed to this alkaloid. The present investigation does not point to an alkaloid but to a glycoside with Cardio-tonic properties. This glycoside has been isolated for the first time in this Institute and its Pharmacological properties were investigated by Prof. H. Cullumbine who found that the action of glycoside on heart is similar to that of digitalis. This glycoside, however, has no effect on diabetes. The results of this would be published in a Scientific Journal.

Diabetic Survey

In co-operation with the Nutrition Division of this Institute a diabetic survey of Colombo was started. Urine samples were collected by Sanitary Inspectors attached to the Nutrition Division and were examined for glucose in this Department. Blood samples of positive cases were collected by the Medical Officer of the Nutrition Division and blood glucose estimations were done in this Department. The urine samples were also examined for oxalate deposits. Over 1,900 urine samples have been examined so far but the investigation will not be completed until many more cases have been studied.

Papers, Publications, &c.

(1) Dr. A. A. Hoover and Mr. R. L. Wickramasinghe—" Microbiological Assay of Vitamins-Riboflavin with Lactobacillus Casei 6375 " read at the Fifth Annual Session of the Ceylon Association of Science.

(2) Dr. A. A. Hoover and Messrs. R. L. Wickramasinghe and L. B. de Silva—" Indigenous Drugs in the Treatment of Diabetes Mellitus " read at the Fifth Annual Session of the Ceylon Association of Science.

(3) Dr. A. A. Hoover and Mr. L. B. de Silva—" A Cardiac Glycoside in Rose Periwinkle " (Vinca Rosea) read at the Fifth Annual Session of the Ceylon Association of Science.

(4) Dr. A. A. Hoover read a paper before the Rotary Club of Colombo on " The Dietary Habits of Man ".

(5) Dr. A. A. Hoover read a paper before the Chemical Society of Ceylon on " The Biochemistry of Diabetes. "

DIVISION OF PARASITOLOGY

The work of this Division consisted of routine examinations and research. The lectures in Parasitology for the courses of the University of Ceylon are also given by the Specialist Officer in charge of this Division.

Research

The investigation into the amoebic carrier state of apparently healthy persons was continued on the same lines as during last year. 712 samples of faeces obtained from 189 persons were examined with 38 positives for *Entamoeba histolytica* giving a percentage of 20.

This Department has also been entrusted with the investigation to assess the therapeutic value of " Hetrazan " in filariasis on the recommendation of the W. H. O. expert on Filariasis. Ten beds in the Police Hospital have been reserved for this investigation and this was commenced in the latter part of November and is in progress. The numbers tested so far are too few to report now.

Papers Published

The following papers by the Staff themselves or in collaboration with others have been accepted by the Editors of Journals for publications:—

(1) " Some Ceylon Fresh Water Snails and human Schistosomes " in the Ceylon Journal of Medical Science.

(2) " A note on the occurrence of Gongylonema pulchrum Molin, 1857, in Man in Ceylon ", in the Journal of Parasitology.

Routine

The various examinations made are as follows:—

Blood for Malaria Parasites	457
Blood for Micro filaria	199
Faeces for Amoebae, Ova and Cysts	5,611
Faeces for Hookworm Ova Count	1,656
Faeces for Hookworm Ova	4,052
Faeces for Culture for Amoebae	114
Vaginal Fluid for Trichomones	27

Clinical Pathology Section

Haematology—Special Work.—Continuing the survey undertaken in 1948, a further 300 samples of blood were examined. A full Blood examination which included Haemoglobin percentage, total red blood cell count, total white blood cell count, differential count *reticulo cyte and platelet* count, cell volume, size of red blood cell, corpusculor volume and fragility was carried out on the above specimens. The range of the results obtained is as follows:—

	Lowest	*Highest*
Hb%	42 ...	92
Red Blood Cell Count	3,000,000 ...	7,320,000
Cell Volume	23.5 ...	53.5
Average size of R. B. C.	6.9 ...	7.7
White Blood Cell Count	3,800 ...	23,600

	Lowest	Highest
Differential Count:		
Polymorphs	20%	68%
Lymphocytes	19%	76%
Eosinopheles	0	64%
Monocytes	0	6%
T Cells	0	12%
Myelocytes	0	1%
Reticulocytes	0	2%
Platelets	120,000	512,000
Fragility:		
Haemolysis starts	0.4%	0.5%
Completes	0.2%	0.38%

Blood Grouping:

A. B. O. Blood grouping was done on 427 specimens.

Blood Groups:

Group O	194
Group A	109
Group B	104
Group AB	20
Total	427

M. N. Grouping was done on 47 specimens.

Rh Grouping was done on 200 specimens.

The above blood groupings were carried out according to the amount of anti-sera available for testing.

Seventy-one samples of blood were sent to the Lister Institute, London, for Rh Testing as the anti-serum could not be sent to us. Rh typing which was done for the Maternity and Children's Hospitals has been stopped, as the dried anti-serum is no longer available.

Toad Test for Pregnancy

Experimental work on the male toad test for pregnancy—using *Bufo melanostictus* was commenced in March, 1949. A total of 178 cases have been examined with 88 positives and 90 negatives. Twenty-five Friedman's test were done as controls.

Clinical Pathology—Routine

Blood for—	
Haemoglobin percentage	87
Red blood cell count	101
White blood cell count	223
Differential count	644
Blood Picture	80
Bleeding time	2
Clotting time	2
Platelets	2
Blood sedimentation Rate	1
Vandenberg Test	1
Cold Aggultination Test	3
Urine for—	
Chemical and Microscopical examination	6,206
Faeces for—	
Strecobilin	3
Cerebrospinal and Peritoneal Fluids for—	
Proteins	5
Cytology	5
Sputum for—	
Cells and Charcotleyden Crystals	1
Total	7,366

DIVISION OF ENTOMOLOGY

Research

Research on the following problems has been carried out or continued during the year.

(1) Observations on the rearing of *Trombicula deliensis Walch.*

Trombicula deliensis has been successfully reared to a fourth generation, after which the experiment was terminated by a method similar to that described for Trambicula acuscuttellaris Walch (S. H. Jayawickrema and W. J. Niles, Nature 160, 578, 1947. One of the chief difficulties encountered in rearing T. *acuscutellaris* was to obtain a high percentage of engorged larvae. On account of the very high motility of the larvae many were irretrievably lost within a short time of being placed on the white mouse, while the unsuitability of the host was also a possible factor. As with *T. Acuscutellaris* no difficulty was experienced in rearing nymphs of *T. deliensis* to the adult stage nor in obtaining gravid females. A diet of eggs of Culex fatigans was found to be quite adequate for the nutritional needs of both nymphs and adults.

Form 13 to 23 per cent. of engorged larvae of *T. Acuscutellaris* were recovered from experiments carried out either in the light or with its total exclusion and with humidity conditions varied by placing a cover over the dish containing the mouse or removing it altogether. To obtain the higher percentage of engorged larvae it was necessary to use over 200 larvae each time. With *T. Deliensis* 31 to 59 per cent. of engorged larvae were obtained far more readily and the number of larvae used each time appeared to be quite immaterial. Nor did it appear necessary to immobilize the mouse as described previously, for several successful experiments were carried out with the mouse left free. On one occasion the mites, which were not tapped out of the tube in which they were enclosed on to the mouse as usual, were able to find the mouse without difficulty from the unstoppered tube. This had never been successfully accomplished with *T. Acuscutellaris.*

(2) Laboratory and Field observations on the bionomics of *Taeniorhyncus* (*Mansonioides*) uniformis and T (*M*) *Anuliferrus.*

In view of the importance now given to the control of Filariasis a study of the bionomics of the vectors of rural Filariasis has been commenced. Field observations outside the Urban Council limits of Kotte and Dehiwela-Mount Lavinia are being carried out on the distribution of these mosquitoes but it is still too premature to summarize the results obtained to date.

In the laboratory a series of experiments to determine oviposition behaviour has been carried out and is still in progress, while data is also being gathered on the rearing of these mosquitoes in the laboratory. While several successful rearing experiments have been carried out these results merely serve to show the erratic behaviour of these mosquitoes in captivity and a considerable amount of further research is indicated.

(3) The Anopheline Fauna of Ceylon.

The data on the prevalence of Anopheline Culicifacies and other anopheline mosquitoes gathered during the period 1936-1948 is being analyzed and will form a subject paper from time to time. As a first step a considerable time has been spent in analysing the data relating to the Maha Oya and Deduru Oya catchments and will form the subject of a paper shortly.

Publications

S. H. Jayawickrema—Resistance to the action of a mineral oil larvicide by larvae of *anopheles subpictus Grassi* (Accepted for publication in the Ceylon Journal of Science, Section B.).

DIVISION OF NUTRITION

The Nutritional State of the Population

The following investigations were carried out to determine the above:—

(1) Clinical Surveys of the school-going population for signs of malnutrition.
(2) Height and Weight measurements of school-going population.
(3) Rural dietary surveys.

(1) *Clinical Surveys :*

The following schools were examined :—

1. C/Kaluwaggala Mixed R. C. School.
2. Batuhena Government Mixed School.
3. Dickwella Government Mixed School.
4. Kirinde Mixed School.
5. Haldumulla Government Mixed School.
6. Pamunugama Government Junior School.
7. Henarathgoda Government Mixed School.
8. M. T. Harasgama Government Mixed School.
9. M. T. Elwala Baptist Mission School.
10. Manipay Hindu College.
11. Manipay Station A. M. School.
12. Memorial English School, Manipay.
13. Kaddudai Tamil Mixed School.

Total number of children examined was ...	3,427
Percentage having phrynoderma is	1.17
Percentage having Bitot's Spots is	1.31
Percentage having sore-mouth is	1.23

These figures compare favourably with those of the previous year, figures being as follows :—

	1948	*1949*
Phrynoderma % ...	2.6	1.17
Bitots's spot % ...	2.4	1.32
Sore-mouth % ...	2.9	1.23

(2) A Height and Weight Survey of schools in representative areas in the Island was carried out. The following schools were selected :—

1. Nugawela Government Mixed Central School.
2. Nugawela Government Mixed Primary School.
3. Nugawela Government Infant School.
4. Idamegama Government Primary School.
5. Vincent's Girls School, Batticaloa.
6. St. Thereasa's Convent, Batticaloa.
7. Idamegama Government Practical School.
8. Central College, Batticaloa.
9. St. Michael's School, Batticaloa.
10. Tangalle Christ Church R. C. Senior Secondary School.
11. Ramakrishna Mission Mixed School, Kalady, Batticaloa.
12. Tangalle Rahula Buddhist Mixed School.
13. Nagulagamuwa Government Junior Mixed School.
14. Nugulagamuwa Government Girls Primary School.
15. Tangalle Pemananda Buddhist Mixed Junior School.
16. Manipay Hindu College.
17. Manipay Station A. M. School.
18. Memorial English School, Manipay.
19. Kaddudai Tamil Mixed School.

Total number of boys examined	3,626
Total number of girls examined	2,667

The heights and weights of school children for the year 1935, 1945 and 1949 are tabulated below.

This gives an indication of the Nutritional state for pre-war, war and post-war periods.

The examinations were conducted on similar lines as on previous occasions.

Table XXIV

Heights—

Age in Years	*Boys*			*Girls*		
	1935	*1945*	*1949*	*1935*	*1945*	*1949*
6	42.8	41.6	43.1	41.8	40.9	42.5
7	44.0	43.9	45.1	43.9	43.3	44.3
8	45.8	45.5	46.6	47.0	45.2	46.2
9	47.4	47.7	48.6	47.8	46.9	47.6
10	49.3	48.9	50.2	49.7	48.6	49.9
11	50.6	50.5	51.7	50.9	50.0	52.5
12	52.5	51.4	53.8	53.0	51.7	53.9
13	54.6	53.7	55.3	55.0	54.3	55.0
14	56.2	54.9	55.9	56.2	56.0	57.7
15	58.9	57.7	59.1	57.9	57.4	58.6
16	60.4	59.1	62.1	58.9	58.0	58.8
17	62.8	62.0	63.3	58.7	58.0	59.3
18	64.1	62.9	64.0	58.3	58.4	59.3

Weights—

6	35.8	35.1	36.5	34.7	33.6	35.6
7	38.0	38.6	39.9	37.5	37.6	38.5
8	41.9	41.6	43.2	41.8	41.3	42.2
9	44.5	45.7	49.9	45.5	44.7	45.4
10	49.1	47.8	52.0	49.6	48.2	49.7
11	51.1	50.8	52.2	52.6	51.5	56.0
12	55.8	53.1	55.6	58.4	56.4	62.1
13	59.3	60.5	64.9	65.0	65.2	69.7
14	67.3	64.0	74.2	70.5	70.0	79.5
15	77.0	73.8	78.4	80.3	80.9	84.8
16	84.2	79.8	90.4	84.1	86.8	88.9
17	96.2	85.8	97.5	86.6	89.4	92.7
18	105.2	93.4	102.3	89.2	91.5	96.9

In the main, the figures for the year 1949 are better than for 1935 or 1945.

The Heights of the boys for the year 1949 are higher than those of the years 1935 or 1945 except in the 14th and 18th year age groups of 1935.

The Heights for girls for the year 1949 are higher than those of the years 1945 or 1935 except in the 8th, 9th and 16th year age groups of 1935.

The weights of boys for the year 1949 are higher than those for the years 1935 and 1945 except in the age groups of 12 and 18 of 1935.

The weights of girls for the year 1949 are higher than those for the years 1935 and 1945 except in the 9th year age group of 1935.

(3) *Rural Dietary Survey :*

Four surveys were carried out as follows:—

	Place	*M. O. H's Area*
1.	Mulliyawallai	Mullaitivu
2.	Hapugahagedera	Polgahawela
3.	Marapona	Ratnapura (N. K.)
4.	Kumbaloluwa	Yakkala.

The results obtained are given below :

Table XXV—Foods consumed in Ounces per Consumption Unit per Day

1949

	Mulliya-walai	*Hapugaha-gedera*	*Marapona*	*Kumbal-oluwa*	*Average*
Country rice (home pounded	3·8	5·1	2·0	6·8	4·4
Imported rice (P)	5·4	5·3	8·0	4·5	5·8
Rice flour preparations	0·5	0·7	0·3	1·2	0·7
Rycena	—	—	—	—	—
Bread	—	1·0	0·3	0·9	0·6
Wheat wholemeal	—	—	—	—	—
Wheat flour	2·1	0·6	3·1	1·4	1·8
Kurakkan	—	0·0	0·1	0·1	0·1
Meneri	—	0·0	0·1	—	0·1
Maize	—	—	—	—	—
Barley	—	—	—	—	—
Total Cereals	**11·8**	**12·7**	**13·9**	**14·9**	**13·3**
Potatoes imported	0·0	0·7	0·1	0·5	0·3
Local Yams	4·4	1·0	1·1	3·1	2·4
Total Roots and Tubers	**4·4**	**1·7**	**1·2**	**3·6**	**2·7**
Pulses	**0·1**	**0·2**	**0·6**	**0·3**	**0·3**
Leafy vegetables	0·1	0·7	0·9	0·8	0·6
Vegetables fruits	0·7	1·0	0·9	1·7	1·1
Jak and breadfruit	0·1	6·5	0·8	1·5	2·2
Gourds and pumpkins	0·5	0·2	0·4	0·3	0·4
Total Vegetables	**1·4**	**8·4**	**3·0**	**4·3**	**4·3**
Ripe Fruits	**0·1**	**0·1**	**0·2**	**0·4**	**0·2**
Fresh fish	1·7	—	0·0	0·1	0·6
Dry fish	0·2	0·9	0·4	0·9	0·6
Crabs and prawns	0·1	0·0	0·1	0·1	0·1
Chicken	—	—	—	—	—
Meat	0·0	—	0·0	0·2	0·1
Total Flesh Foods	**2·0**	**0·9**	**0·5**	**1·3**	**1·2**
Eggs	**0·0**	**0·0**	—	—	**0·0**
Milk and Milk Products	**0·0**	**0·0**	**0·6**	**0·5**	**0·3**
Coconut oil	0·0	0·2	0·0	0·1	0·1
Coconut	2·3	3·9	3·3	3·7	3·3
Other Nuts and Seeds	**0·0**	**0·1**	—	—	**0·0**
Miscellaneous	—	—	—	0·1	0·0
Sugar	**1·7**	**1·5**	**1·7**	**1·7**	**1·7**
Month :	January	May	August	September	
No. of families	50	50	40	30	43

Table XXVI.—Constituents of the Daily Diet per Consumption Unit

1949

		Mulliya-walai	*Hapugaha-gedera*	*Marapona*	*Kumbal-oluwa*	*Average*
TOTAL PROTEINS	g	48·6	55·3	50·7	63·8	54·6
Animal Proteins	g	12·4	13·7	8·4	17·9	13·1
TOTAL FATS	g	31·2	55·5	46·0	52·9	46·4
Animal fats	g	0·9	1·0	1·4	2·0	1·3
Carbohydrates	g	391	363	382	423	390
Energy Calories	g	2,052	2,176	2,161	2,404	2,198
CALCIUM	g	0·2	0·3	0·3	0·4	0·3
Phosphorus	g	0·6	0·8	0·9	0·9	0·8
IRON	mg	9·2	21·2	16·4	21·6	17·1

TABLE XXVII—INCIDENCE OF PHRYNODERMA, SORE-MOUTH AND BITOT'S SPOTS

	Mulliya-walai	*Hapugaha-gedera*	*Marapona*	*Kumbal-oluwa*	*Total*	*Percentage of total examined*
Total population examined	240	227	232	143	842	
PHRYNODERMA	1	—	4	—	5	0·6
SORE MOUTH	7	1	2	—	10	1·2
BITOT'S SPOTS	1	—	2	—	3	0·4
Number effected	9	1	8	—	18	2·1

TABLE XXVIII

	Mulliya-walai	*Hapugaha-gedera*	*Marapona*	*Kumbal-oluwa*	*Average*
General particulars:					
Number in family	4·8	4·5	5·8	4·8	5·0
Number of consumption units	3·7	3·4	4·4	3·8	3·8
Number of children 12 years and under	2·0	1·7	2·1	0·8	1·7
CASH VALUE OF DAILY DIET per consumption unit in rupees/cents	0 49	0 54	0 42	0 55	0 50

TABLE XXIX—CONSUMPTION LEVELS

	Mulliya-walai	*Hapugaha-gedera*	*Marapona*	*Kumbal-oluwa*	*Average*
Total number of families	50	50	40	30	43
Families consuming over 2,500 calories	7	11	7	11	9·0
Percentage	**14·0**	**22·0**	**17·5**	**36·7**	**22·6**
Families consuming 2,000–2,500 calories	17	21	18	10	16·5
Percentage	**34·0**	**42·0**	**45·0**	**33·3**	**38·6**
Families consuming under 2,000 calories	26	18	15	9	17·0
Percentage	**52·0**	**36·0**	**37·5**	**30·0**	**38·9**
Families consuming less than 65 grams proteins	44	38	36	20	34·5
Percentage	**88·0**	**76·0**	**90·0**	**66·7**	**80·2**
Families consuming less than 0.5 grams proteins	49	42	31	20	35·5
Percentage	**98·0**	**84·0**	**77·5**	**66·7**	**81·5**

Investigations

Goitre Survey :

The surveys which were started in November, 1947, were terminated in September, 1949.

Of a total number of 39 surveys, 16 were carried out in the year 1949.

Total population surveyed was males 23,753 and females 22,805 making a total of 46,558.

The incidence of goitre by sex, by villages, by provinces, by races and hereditary tendencies is tabulated below.

TABLE XXX—INCIDENCE OF GOITRE

	Males			*Females*			*Total*		
	No. examined	*No. Positive*	*Percentage*	*No. examined*	*No. Positive*	*Percentage*	*No. examined*	*No. Positive*	*Percentage*
Western Province :									
Ragama	1,321	2	0·15	1,339	32	2·39	2,660	34	1·28
Pelenwatte	872	5	0·57	869	28	3·22	1,741	33	1·90
Watera	387	2	0·52	336	22	6·55	723	24	3·32
Bandaragama	646	—	—	659	20	3·03	1,305	20	1·53
Ingiriya	1,513	4	0·26	1,270	55	4·33	2,783	59	2·12
Pothupitiya	1,437	3	0·21	1,395	39	2·80	2,832	42	1·48
Diyagama	459	2	0·44	404	9	2·23	863	11	1·27
Etul Kotte	1,492	—	—	1,452	18	1·24	2,944	18	0·61
Buthgamuwa	694	—	—	611	14	2·29	1,305	14	1·07
Bope	752	—	—	742	15	2·02	1,494	15	1·00
Udumulla	355	—	—	341	8	2·35	696	8	1·15
Koholana	276	—	—	283	1	0·35	559	1	0·18
Hendala	1,060	—	—	1,159	12	1·04	2,219	12	0·54
Total	11,264	18	0·16	10,860	273	2·51	22,124	291	1·32
Central Province :									
Gohagoda	614	1	0·16	528	5	0·95	1,142	6	0·53
Kirinda	429	—	—	459	5	1·09	888	5	0·56
Udowita	293	—	—	294	—	—	587	—	—
Kalugamuwa	463	—	—	404	1	0·25	867	1	0·12
Padeniya	226	—	—	155	—	—	381	—	—
Blackpool	488	1	0·21	408	8	1·96	896	9	1·00
Kandapola	304	1	0·33	260	3	1·15	564	4	0·71
Matale	1,266	2	0·16	1,280	61	4·77	2,546	63	2·47
Total	4,083	5	0·12	3,788	83	2·19	7,871	88	1·12
Southern Province :									
Udagama	524	—	—	507	6	1·18	1,031	6	0·58
Uluwitika	767	2	0·26	801	23	2·87	1,568	25	1·59
Watareka	696	2	0·29	734	25	3·41	1,430	27	1·89
Walgama	1,399	1	0·07	1,495	14	0·94	2,894	15	0·52
Hittetiya	531	—	—	525	4	0·76	1,056	4	0·38
Total	3,917	5	0·13	4,062	72	1·77	7,979	77	0·96
Northern Province :									
Talaimannar	166	—	—	138	—	—	304	—	—
Tholpuram	647	—	—	598	2	0·33	1,245	2	0·16
Mulliyawalai	398	—	—	348	1	0·29	746	1	0·13
Total	1,211	—	—	1,084	3	0·28	2,295	3	0·13
Sabaragamuwa :									
Marapona	480	1	0·21	453	24	5·29	933	25	2·68
Total	480	1	0·21	453	24	5·29	933	25	2·68
Eastern Province :									
Palaminmadu	181	—	—	148	—	—	329	—	—
Kalladdi	1,299	—	—	1,192	1	0·08	2,491	1	0·04
Muttur	1,315	—	—	1,277	—	—	2,592	—	—
Total	2,795	—	—	2,617	1	0·04	5,412	1	0·02
North-Western Province :									
Talwatte	235	—	—	237	—	—	472	—	—
Merawela	286	—	—	267	—	—	553	—	—
Total	521	—	—	504	—	—	1,025	—	—
Uva Province :									
Wiyadigune	451	—	—	406	2	0·49	857	2	0·23
Hingurugamuwa	777	—	—	764	7	0·92	1,541	7	0·45
Total	1,228	—	—	1,170	9	0·77	2,398	9	0·38

Race	Total			Males			Females		
	No. examined	No. Positive	Percentage	No. examined	No. Positive	Percentage	No. examined	No. Positive	Percentage
Sinhalese	25,916	273	1·05	12,998	18	0·14	12,918	255	1·97
Tamils	6,121	21	0·34	3,199	—	—	2,922	21	0·72
Muslims	3,684	9	0·24	1,911	1	0·05	1,773	8	0·45

Hereditary Tendency :

	Total Number	Percentage	Males	Percentage	Females	Percentage
Total number having Goitre	494	—	29	—	465	—
Of these, number having history of goitre among parents or grandparents	95	19·23	3	10·34	92	19·78

It will be noted that goitre is endemic in the South-West sector of Ceylon.

Diabetic Survey

A diabetic survey was started in August, 1949. The main object of this survey is to study the incidence of diabetes in relation to population, race, sex, age, hereditary and occupation.

Briefly the method consisted of visiting homes, distributing questionaires and bottles for the collection of early morning urine.

On the results of the urine analysis, fasting blood sugar determination was carried out. In addition urines were examined for deposits. Whenever blood and urine analysis pointed to a diabetic condition the subjects concerned were advised to take medical attention. Others are also informed of the results of the analysis of the urine samples.

Number of urine specimens examined	1,892
Number of urine specimens positive for sugar	32
Number of people taking insulin treatment	16
Number of blood specimens examined	39
Number of homes visited	387

The survey is being continued.

Lectures and Propaganda

The following lectures were given:—

Five courses of three lectures each were given to—

(1) The Lanka Mahila Samitiya Sevakayas.

(2) Homes Science Teachers.

(3) Amateur Sports Federation.

(4) Bishop's College.

A fresh set of 52 slides on Nutrition was prepared and handed over to the Public Health Museum.

Reports

Reports on work done in this division were submitted to the F. A. O. and W. H. O.

A report was also submitted for the Departmental brochure.

A final report on " Diet and Nutrition of the People of Talwatte " and " An experiment in school feeding " was submitted to the Talwatte Model Village Committee.

Examination of Foods

Examination of food samples from the Food Controller was as follows:—

	Number examined
Rice samples	80
Flour samples	19
Paddy samples	1

Training of Sanitary Inspectors

The policy of training Sanitary Inspectors for a period of one year in this Division is continuing. Four Sanitary Inspectors have completed their period of training and have left on transfer and four new Sanitary Inspectors have taken their place.

Recommendation

The want of quarters for the scientific observation of the various clinical states met with in the field is keenly felt. It is only possible if a centre in close proximity be allotted for the purpose. The centre could function both as an out-door as well as an indoor clinic. If this was possible a complete laboratory and clinical examination could be maintained before and throughout the period of observation and treatment of unidentified states seen in the field. Such a clinic is being run at the Nutrition Research Laboratories, Coonoor, since August, 1947.

IV—MENTAL CARE

One of the important recommendations made by Professor Mapother was to establish a Neuro-Psychiatric Clinic with beds attached to it at the General Hospital, Colombo. The Clinic functioned since 1943 and it is gratifying to record that beds have been allocated to this Clinic with the appointment of a Viennese Specialist.

(A)—MENTAL HOSPITAL, ANGODA

The Viennese Specialist visits this hospital twice a week in the mornings on Tuesdays and Fridays with his House Officer. He also works at the Neuro-Psychiatric Clinic and at the O. P. D., General Hospital, in addition to the ward work.

During the year under review, two Medical Officers were selected for training in Pshychiatry in the United Kingdom, but only one Medical Officer was able to proceed on study leave.

For the treatment of dental cases, a Dental Chair was installed at this hospital but no start could be made to carry out treatment as the equipment required was not available.

To make this institution a self-contained unit, an X-Ray plant was also installed but for want of certain parts this too is not yet ready for use.

The Laboratory at this Hospital had been in charge of an Apothecary since its establishment and most of the specimens had to be sent to the Medical Research Institute for examination. A qualified Laboratory Assistant has now been appointed and it is proposed to reorganize the Laboratory to meet the demands of the Hospital.

During the year under review the methods of treatment carried out in the main were Electro-convulsive therapy, Insulin Shock therapy, Corosol therapy and Cardiasol therapy. However, there was no continuity of supply of essential drugs from the Civil Medical Stores and treatment had to be suspended at intervals in view of the non-supply of drugs such as Insulin, grape sugar solution, &c.

Occupational therapy for patients in the form of textile weaving, mat weaving, coir broom making, toy making, picture framing and dairy farm work, &c., have kept about 200 patients occupied throughout the year. The majority of other patients attended to routine ward work, clearing, weeding and cultivation of the hospital garden. A new industry started during the year was Vetakeiya works. A woman demonstrator in Vetakeiya works and a woman demonstrator in textile weaving were appointed by the Director of Industries. They are paid by the Department of Industries.

For the indoor recreational facilities of patients two large halls with indoor-games, books, periodicals and newspapers were provided for the males and females, respectively. The wards and the two halls are provided with loud-speakers with a centralized amplifier for the patients to listen to radio items. The patients have also been provided with a Seraphina (Harmonium). Tabla and Rabanas. During the year under review, five Cinema shows were given at a cost of Rs. 120 per show. The expenditure was met from the Treat Fund. Treats were given to patients on the New Year Day, Wesak Day and Christmas Day.

The out-door recreational facilities provided for patients were cricket, tennis, volley-ball, foot-ball and badmington. During the year, 1949, ten cricket matches were played by patients with Visiting Teams and the patients won seven matches.

Staff

The Medical Staff at this hospital consists of one Medical Superintendent, two qualified Psychiatrists and four other Medical Officers. Provision exists for one post of Deputy Medical Superintendent and two other posts of Medical Officers, which have not yet been filled.

The Nursing Staff continues to be the same as in the year 1948. Provision has been made for 8 male nurses, who will be available only during the following year after their training. The appointment of male nurses is an essential improvement to this hospital.

The following table gives the various grades of officers employed in this hospital:—

1	Medical Superintendent.
6	Medical Officers.
1	Secretary.
8	Clerks, General Clerical Service.
4	Clerks, Hospital Clerical Service.
2	Female Ward Clerks.
1	Matron.
16	Nurses.
1	House Keeper.
2	Appothecaries.
1	Laboratory Assistant.
1	Head Overseer.
11	Assistant Overseers.
324	Male Attendants.
168	Female Attendants.
41	Cooks.
1	Hospital Orderly.
4	Barbers.
2	Boilermen.
3	Nurses Ayahs.
1	Nurses Cook.
1	Rattan Worker
11	Night Watchers.
2	Office Orderlies.
1	Seamstress.
5	Burial Labourers.
3	Matron's Servants.
22	Conservancy Labourers.
1	Dairy Farm Manager.
*2	Textile Weaving Demonstrators.
*1	Vetakeiya Works Demonstrator.

* Loaned by the Department of Industries.

During the year under review, the Department Welfare Officer made three visits to this hospital and matters effecting the general welfare of employees were discussed.

Work Done

The following table indicates the admission, discharge and deaths of the Mental Hospital and of the House of Observation:—

Mental Hospital Certified Patients

	Males	*Females*	*Total*
Remained on 31-12-48	1,494 ..	1,078 ..	2,572
Admitted in 1949	1,273 ..	625 ..	1,898
Total treated in 1949	2,767 ..	1,703 ..	4,470
Discharged in 1949	887 ..	451 ..	1,338
Died in 1949	307 ..	205 ..	512
Remained on 31-12-49	1,573 ..	1,047 ..	2,620

House of Observation

	Males	Females	Total
Remained on 31-12-48	162	81	243
Admitted in 1949	1,478	723	2,201
Total cases observed	1,640	804	2,444
Discharged in 1949	253	117	370
Died in 1949	19	12	31
Transferred to M.H.	1,273	625	1,898
Remained on 31-12-49	95	50	145

During the year under review, 1,898 patients were admitted to hospital and ,201 to the House of Observation as against 2,702 and 2,639 during the year 948. Of this number, 4,470 were treated in 1949 as against 4,412 treated in 948. The number of patients treated is more or less the same as in 1948. The umber of certified cases discharged was 1,338 as against 1,585 in 1948. Of ne cases admitted to the House of Observation, 370 cases were discharged s being of sound mind as against 304 patients in 1948.

According to the following table it will be noted that there is a steady increase n the number of patients in this institution:—

Patients remaining in Hospital at the end of last Three Years

	Males	Females	Total
1947	1,573	884	2,457
1948	1,656	1,159	2,815
1949	1,668	1,097	2,765

The extent of overcrowding at this hospital can be readily assessed from the bove figures in view of the fact that the institution was designed to accommodate 1,800 patients only. The Villas at this hospital have been throughout ccupied by patients and in view of the demand for this type of accommodation y a certain class of patients, a proposal was put forward to house four patients n a villa instead of the present system of accommodating two patients.

Patients discharged as Recovered

	Males	Females	Total
(*a*) Certified cases	193	154	347
(*b*) Uncertified cases	253	117	370

The certified cases discharged as recovered were with the approval of the Minister of Health, while the uncertified cases were by the District Judge as the atients were adjudged to be of sound mind after the period of observation nd treatment. The majority of cases admitted to this hospital were in a chronic nd advanced stage and fit to be kept under proper care and control only. Nevertheless, every attempt was made to relieve them of their mental symptoms as far as possible by the modes of treatment carried out in this hospital. The recovery rate must therefore necessarily be low.

The following table gives the incidence of infectious diseases at this hospital:—

	Cases		*Deaths*	
	1948	*1949*	*1948*	*1949*
Dysentery	99	70	29	24
Typhoid Fever	23	6	9	1
Phthisis	67	51	54	45
Chicken-pox	377	457	—	—
Mumps	—	48	—	—

There were no major cases of infectious diseases, but chicken-pox is prevalent at this hospital throughout the year. In the absence of isolation wards, patients are isolated in over-crowded wards where contact with other patients is a common feature. In the circumstances, it is impossible to bring this infectious disease and others under proper control. The only solution is to isolate them in a separate ward at the I. D. H. if such an arrangement can be made. Otherwise, a separate isolation ward for infectious diseases should be constructed within the hospital premises.

The Pelawatte Mental Hospital continues to house 55 patients only and the major activity in this hospital is the agricultural work by patients.

(B)—NEURO-PSYCHIATRIC CLINIC

The new feature introduced in the working of the Clinic during the year was the appointment of a Viennese Medical Officer, Dr. W. Grillmeyer, to work in association with the Medical Officer in charge. He assumed duties in June, and a few weeks later a junior Medical Officer was also appointed to assist him. In November a ward at the General Hospital, of twenty-five beds, was set apart for psychiatric and neurological cases, the implementation of a recommendation urged since the inception of the Clinic in 1943. The Clinic functions on three days of the week, and the Viennese Medical Officer attends on two days since the establishment of the Psychiatric Ward.

The present staff consists of:—

(1) Medical Officer in charge.
(2) Dr. W. Grillmeyer.
(3) Nurse.
(4) Part-time labourer.

An analysis of the attendances with a comparative statement by years is given in the table below.

TABLE XXXI—ANALYSIS OF ATTENDANCE—1949

Number of Sessions		151
Attendance:		
Number of Visits		296
Number of subsequent visits		759
Total		1,055
Psychoneurosis:		
Anxiety state		27
Hysteria		25
Psychosis:		
Schizophrenia		44
Depression		44
Epilepsy		59
Toxic Confusion		8
Organic Syndromes		53
Mental Defect		14
Sound Mind:		22
Referred Cases		174
Electrical Treatments given		369
Recoveries	30	
Improvements	15	
Not improved	15	
Treatment abandoned	6	66 Patients.
Sodium Pentohol Injections given		34

COMPARATIVE STATEMENT

Year	*Number of Sessions*	*First Visits*	*Subsequent Visits*	*Total*	*Referred Cases*	*Electrical Treatment Number of patients*
1943	55	52	95	147	—	—
1944	100	113	162	275	—	—
1945	102	110	205	315	3	—
1946	102	176	282	458	2	—
1947	113	200	290	490	63	—
1948	150	297	529	826	62	16
1949	151	296	759	1,055	174	66

There has been a gradual increase in the figures of attendance, averaging about 10 per session, a fair indication of the popularity of the service. An increase is also registered in the number of cases referred by members of the Visiting Staff of the General, and occasionally, of the Maternity Hospital. Many cases were also referred by Medical Boards. The availability of Electro-Shock Therapy as an out-patient service has also been of increasing benefit and convenience to patients, and numbers treated have increased.

The Clinic dealt with early psychiatric disorders, but since the advent of the Viennese Medical Officer a considerable number of purely neurological cases in all stages have been seen by him.

The accommodation provided for the work has not been satisfactory. The appointment of an additional officer without additional working space has complicated the situation still further. Three Medical Officers have been compelled to work in the same place at the same time, a situation which is fundamentally unsatisfactory in psychiatric work.

(C)—CHILD GUIDANCE AND YOUNG PEOPLES' CLINIC

It is gratifying to record that the numbers attending this Clinic have increased considerably. The work has increased to such a degree that the Clinic will very soon have to function on three or four evenings a week besides the daily morning sessions. When this happens it would be necessary to find more accommodation.

The staff still consists of one Medical Officer and one Psychiatric Social Worker. The Clinic cannot function efficiently with this staff and many patients will have to be refused attention for want of time and assistance. The Viennese Neuro-Psychiatrist has given some of his time in neurological examinations.

The salient features of the work done at the Clinic are Psycho-Therapy, Play Therapy, Speech Therapy, advice to parents and teachers, Intelligence testing, Vocational Guidance; Reports on young delinquents to Courts and Probation Officers; Treatment of Epileptics and behaviour disorders.

In accordance with accepted teachings in Mental Hygiene special stress is laid on advising parents regarding their behaviour towards their children. Many congenital defectives have applied for treatment but this problem cannot be ameliorated without a Home for Defectives and this does not come within the scope of this Clinic.

The following personnel are urgently required:—

(1) Trained Officer for Intelligence Testing.
(2) Assistant Psychiatric Social Worker.
(3) Clerk.

The following is an analysis of the work done for 1949:—

Diseases:

Behaviour Problems	23
Personality Disorders	3
Speech	12
Sex	6
Epileptics	70
Psycho-Somatic Disorders	20
Neurological cases	16
Psychosis	24
Dull normal cases	5
Mental Defectives	67
Deaf Mutes	14
Referred to other clinics	13
Total	273

Total number of attendances for Psycho Therapy, Play Therapy, Speech Therapy, &c.	1,280
Number of visits by Psychiatric Social Work to Home and School for Psychological Investigations, &c.	195

	1948	*1949*
Number of Patients	229	273
Number of attendances	550	1.280
Number of visits to Homes and Schools	151	195

V—PREVENTIVE MEDICINE AND HYGIENE

One of the most regrettable features and one that has hampered the progress of Public Health work has been the inability to secure Medical Officers who are prepared to choose Public Health work as a career. This is a grave indictment especially when it is remembered that the 25 years of intensive public health work in this country carried out by a small band of devoted officers has won the encomiums of health workers in the world.

The emoluments of Government Medical Officers of Health are slightly better than those of Government Medical Officers on the curative side; Health Officers are awarded proportionately more opportunities to go abroad to prosecute higher studies. Nevertheless young Medical Officers will not elect Public Health work as a career.

In order to overcome this prejudice, to give a practical insight to Public Health work and also to secure the badly-needed personnel for Public Health work a scheme was evolved whereby every Government Medical Officer after serving his internship period was expected to serve a limited period of about two years as a Junior Medical Officer of Health.

There has been such a storm of protest that it has become incumbent on the Ministry of Health to abandon this scheme and to order a certain percentage of new recruitments for Government Service to be made for Public Health work permanently.

Every effort is being made to circumvent this proposal too.

It would appear to be vitally important, nationally and internationally, that this problem should be solved because with all the good will in the world and the lip service that is paid to Public Health work little can be achieved if there are no officers to do the work.

(A)—SANITATION

(i) Water Supply, Disposal of Excreta

Sanitation of the Island except in the Municipal areas of Colombo, Kandy and Galle has been under direct supervision of the Medical Officers of Health and Sanitary Inspectors of the Department of Medical and Sanitary Services. Urban Council areas which had recently attained Municipal Status have been given the option of utilizing the health personnel of the Department for a period of three years.

Services of Departmental Sanitary Inspectors were loaned to Urban Councils which contribute a part of their salaries and other emoluments. With a very few exceptions the Sanitary Inspectorate of Urban Councils is manned by Government Sanitary Inspectors.

Sanitation in the Island can be classified under two main headings:—

(*a*) Urban,
(*b*) Rural.

Improvement in environmental sanitation is one of the important functions of the Sanitary Inspectors. In rural areas " the Rural Scheme of Sanitation " which stresses five elementary sanitary requirements referred to in the 1948 Report is pursued. In Urban areas supervision of licensed and offensive trade premises and improvement of housing conditions have been the main problems of Sanitary Inspectors. Much zeal and energy had also been displayed by them in getting repairs effected to the dwellings which had been neglected during the period of the war years. Owing to the availability of labour and material, though expensive, under post-war conditions some of the local authorities in the Island have interested themselves in housing schemes for the poor and middle class people. In such schemes the services of the Sanitary Inspectors had been extensively used.

The number and the distribution of the Departmental Sanitary Inspectors are hown in the following statement:—

Urban Councils	67
Town Councils	13
Village Committees	485*
Seconded for Service under Hydro-Electric Scheme	1
Doing Specialized Work	92
Total	658

* Of whom 21 are working part-time in Town Councils.

(*a*)—WATER SUPPLY

Pipe-borne water supplies are provided for five Municipal areas, 15 Urban ouncil areas and 43 other towns in the Island.

The work undertaken by the Sanitary Engineering Division of this Department n connection with water supply schemes is shown in another section of this eport.

Advice has been given to local authorities in regard to filtration, preliminary urification of water, chlorination and methods of prevention of pollution of vater supplies in their respective areas.

Samples taken periodically from pipe-borne water supplies of towns were acteriologically examined and reports were sent to local authorities with necesary recommendations. Out of the 1,209 samples bacteriologically examined rom all sources, 572 were found unsafe for drinking purposes.

The Local Government Department by releasing loan funds has launched a igorous campaign to provide pipe-borne water supplies for towns and bazaar reas and for construction of wells in rural areas.

Number of Wells, &c.:

	1948		*1949*	
	Existing	*Newly built*	*Existing*	*Newly built*
Public Wells	4,267	123	4,478	76
Private Wells	202,250	743	203,240	918
Springs and Spouts	2,549	2	2,679	17

Inspection of Water Supplies—1949—

	Public Wells	*Private Wells*	*Springs and Spouts*
Number found defective	2,427	74,876	1,398
Number improved—			
(*a*) Partially	257	5,117	48
(*b*) Radically	49	1,164	20

Analysis of Water Supplies—

1. (A) Samples examined bacteriologically	1,209
(B) Samples found unfit for human consumption	572
2. (A) Samples examined chemically	252
(B) Samples found unfit for human consumption	65

(*b*) DISPOSAL OF EXCRETA

Disposal of excreta in some of the densely populated urban areas, where the ucket system of conservancy is in vogue, continued to be a difficult problem. On the collection and final disposal of excreta, the local authorities spend a onsiderable portion of their annual revenue. With a view to curtailing such xpenses and providing better sanitation, the Sanitary Engineer of this Department, at the request of two Local Authorities, has prepared plans for sewage reatment plants in these two areas.

Very satisfactory progress, as shown in the list appended below, has been chieved in construction of latrines for private premises. This progress could be attributed largely to the scheme of Government aid for the poor villagers in latrine construction which benefitted more families than in previous years. More "Water seal" types than ordinary pit type latrines were built during the year under review. A sum of Rs. 144,956 was spent in 1949 on subsidies for construction of latrines. Under this scheme a bag of cement and a "Water seal" syphon are issued free of charge to each chief occupant of a dwelling, who cannot afford to build his own latrine.

TABLE XXXII—STATEMENT OF CONDITION OF LATRINES

	1948	*1949*
(1) Existing:		
Public	1,741	1,826
Private	282,697	293,523
School	7,609	7,806
(2) Latrine Found Defective:		
Public	707	723
Private	66,216	57,110
School	3,066	3,298
(3) Latrine Newly Built:		
Public	89	85
Private	8,191	11,052
School	123	198
(4) Latrine Restored to Sanitary Type:		
Public	16	66
Private	1,552	1,609
School	250	157
(5) Types:		
Pit	1,412	1,185
Bored Hole	76	106
Mound	—	16
Pail	330	525
(6) Conservancy—Disposal of night soil:		
Number of towns—composting	5	4
trenching	206	242
incinerating	6	12

(c) DRAINAGE

Investigations and designs in respect of a number of Town Surface Drainage Schemes were completed by the Sanitary Engineering Division. Work undertaken by this division is set out elsewhere in this report. 6,085 feet of cemen drains in towns and 3,301 feet in Rural bazaar areas were built in 1949.

(d) SCAVENGING, DISPOSAL OF REFUSE

The disposal of refuse to prevent mosquito breeding received careful attentio of many local authorities especially those which were faced with the danger o urban filariasis. Town refuse is being utilized in the areas of a few loca authorities for the purpose of reclaiming the low-lying marshes in their respectiv areas.

Disposal of refuse:—

	1948	*1949*
Number of towns—composting	7	14
burying	77	63
incinerating	62	68
dumping	106	150

(*e*) SCHEME OF RURAL SANITATION

The following figures for 1949 when compared with the figures of the two evious years, reveal encouraging results in the efforts of Sanitary Inspectors orking in rural areas to introduce this scheme into every village home as the inimum measure of sanitation.

	1947	*1948*	*1949*
Number of houses worked	153,860	163,439	167,483
Number of new houses taken up	34,882	41,642	46,625
Number of new houses completed	11,516	11,561	14,670

The number of houses which carried out each item during the last three years e tabulated below:—

	1947	*1948*	*1949*
(*a*) Compost making	32,861	33,316	41,340
(*b*) Kitchen gardens	54,677	54,722	69,039
(*c*) Boiled and cooled water	59,701	63.738	74,493
(*d*) Ventilation and light	44,901	43,194	50,537
(*e*) Latrines	5,681	18,925	18,525

(*f*) LICENSED AND OFFENSIVE TRADES

All food-handling establishments were frequently inspected and necessary improvements have been effected. Equitable administration of the regulations in this onnection is ensured in progressive countries with the co-operation of the persons terested in such trades by mutual agreement between the duly constituted ssociations of the trades concerned and the public health authorities. In the osence of such organized associations, this measure of co-operative effort is not btainable in this country.

(i) *Licensed Trades:*

	1948	*1949*
Number existing	28,711	31,718
Number inspected	28,426	31,162
Number of inspections made	357,716	352,451
Number of defects found	380,602	409,637
Number of defects corrected	236,270	246,438
Number improved radically	11,261	15.166

(ii) *Offensive Trades:*

Offensive trades are on the increase. They were periodically inspected by the edical Officers of Health and Sanitary Inspectors and kept under close pervision.

	1948	*1949*
Number existing	2,877	2,932
Number inspected	1,331	1,399
Number of inspections made	10.505	9,488
Number of nuisances created	1,780	2,225
Number of nuisances abated	1,082	1,139

(*g*) ANTI-PLAGUE MEASURES

Since 1938 there was neither epizootic nor human plague reported in the Island. ntensive measures carried out for eradication of plague in the past have been itherto continued. The chief anti-plague measures were the fumigation with ydrocyanic acid gas of rice and other grains which are imported to Colombo from lague infected ports in the East, subsequent storage of grains in rat-proofed rain-stores, and destruction of rats in Municipal and urban council areas. A tatement of anti-plague work done in commercial premises is given under the pidemiological section of this report.

(*h*) ANTI-FLY MEASURES

110,922 breeding places were detected and 86,394 were radically dealt with.

The Hospitals in the City of Colombo and neighbourhood were sprayed with ammexane once in six weeks through a mobile unit as an anti-fly measure.

(i) Sanitary Inspection of Premises

(1) *Public Premises :*

(A) Railway—

	Inspected	*Inspections*	*Defects*	*Defects rectified*
(*a*) Railway Stations :				
Premises	228	3 628	2.017	1,037
Drains	234	3.349	1,293	935
Latrines	427	7,130	2.229	1,101
Urinals	224	3,757	1.125	470
Water Supplies	116	1,712	447	231
(*b*) Bungalows :				
Premises	672	7,693	2,000	1,204
Drains	628	7,211	1,956	1,366
Latrines	815	9,975	2.514	1,648
Compounds	636	7,959	2,057	1,569
Water Supplies	363	3,482	662	320
(*c*) Lines :				
Premises	522	6,522	3,361	2,098
Drains	527	6,560	2,617	1,863
Latrines	711	8.495	3,331	2,198
Compounds	478	6,226	2,637	1,994
Water Supplies	201	2,674	480	292
Other Public Premises	10,466	184,680	70,478	51,956
(2) *Private Premises*	763.029	1,524.172	1.040.514	783,690

(j) Housing and Town Planning

The Housing and Town Improvement Ordinance has been enforced in the areas of the local authorities except in Village Committee areas. However, some of the bazaar areas in the latter group have been specially proclaimed and brought under the operation of the Ordinance. The work done in this connection in 1949 is shown in the following statement :—

Building Applications for—	
(*a*) *New Buildings :*	
Received	4,689
Reported as (*a*) Recommended	3,370
(*b*) Not recommended	1,165
For addition and alterations :	
Received	2,111
Reported as (*a*) Recommended	1,491
(*b*) Not recommended	591
For Certificates of Conformity :	
Received	1,652
Reported as (*a*) Recommended	1,367
(*b*) Not recommended	274
(*b*) *Insanitary Dwellings :*	
Number existing	2,336
Number reported on for action	103
Number unfit for human habitation	787
Closing Orders obtained	26
Improved—Voluntarily	60
Compulsorily	2
Demolition Orders obtained	5
Demolished	20

(k) Food in relation to Health and Disease

(*a*) *Nutrition.*—A record of work done in connection with investigations on Nutrition and diet of the people is shown in the section on the " Medical Research Institute ".

(*b*) *Food Sanitation.*—The Food and Drugs Act became law during the year under review, and will be put into operation to begin with in the Colombo Municipal area as soon as the necessary regulations under this Act have been framed.

The enforcement of the Act will gradually be extended to other areas. This Act will enable the local authorities to take action against production and sale of ontaminated or unwholesome food and thereby safeguard the health of the Public.

As in previous years supervision of slaughter of animals for human consumption and control of milk supplies were the chief activities carried out in regard to ood-sanitation and the work done in this connection is tabulated below.

	1948	1949
Cattle—		
Number inspected	79,679	98,994
Number passed for slaughter	76,747	95,285
Goats—		
Number inspected	43,598	52,244
Number passed for slaughter	42,811	51,136
Milk Supply—		
Number of samples analysed	574	566
Number found adulterated	295	420
Food—		
Number sampled	Nil	156
Number condemned	Nil	36

(*l*) FESTIVALS AND FAIRS

The sanitation of all proclaimed Festivals and Fairs in the Island is supervized by the Staff of the Department of Medical and Sanitary Services. The work done by the Health Staff during the past has proved that this essential service has been responsible, to a great extent, in the prevention of the outbreak of epidemics and the spread of diseases to other parts of the country.

Supervision of conservancy and scavenging, disposal of rubbish and prevention of soil pollution, provision of safe drinking water and prompt medical aid are the duties of the Staff appointed for this purpose.

The effectiveness of this essential service is proved by the absence of communicable diseases in epidemic form in a population, often reported as ranging between 10,000 and 200,000.

The popularity of Sanitary Control of the proclaimed festivals and fairs has nduced the organizers of un-proclaimed festivals and fairs, existing in the Island, to request that sanitary arrangements be made to safeguard the health of those small congregations as well. In this respect, the Supervising Sanitary Inspectors who are charged with sanitary arrangements of festival camps in their respective areas take necessary action to provide the necessary sanitary facilities.

Estate Medical Wants and Health Work.—The Medical Wants Ordinance has been in operation during the year under review.

The regulations regarding the new type of estate lines have been laid before the House of Representatives and the Senate, and will become law shortly.

Apart from the usual duties on the part of this Department under the Ordinance, a Refresher Course consisting of 12 lectures was held at 10 centres with the assistance of the Medical Officers and Medical Officers of Health for the benefit of estate dispensers. 8 lectures were delivered by the Medical Officers at the hospitals with practical demonstration in the wards and the remaining four lectures by the Medical Officers of Health. This Refresher Course was arranged at the request of the Medical Officer of the Planters' Association of Ceylon.

In order to encourage D.D.T. spraying in Estates in malarial districts, a grant to cover the import duty on the D.D.T. used is given to the estates concerned in the form of a rebate on the production of necessary certificates.

The work carried out by this Department in 1949 on estates scheduled under the Medical Wants Ordinance is as follows:—

(ii) Estate Medical Wants—1949

Area.—There were approximately 2,312 estates scheduled under the Medical Wants Ordinance (Chapter 176) with an approximate population of 966,121.

Staff.—

Inspecting Medical Officer (Estates)	1
Medical Officers of Health	55
Medical Officers	4

Medical Facilities.—The Government maintains in the Estates Medical Districts 66 Hospitals and 116 Dispensaries in charge of qualified Medical Officers and Apothecaries. In addition there are 99 Estate Hospitals and 682 Estate Dispensaries which serve labourers employed on Estates (including the 99 Dispensaries attached to the Estate Hospitals).

Estate Hospitals.—During the year 93 Estate Hospitals were inspected for the purposes of granting rebate in respect of the year 1948. The Hospitals were generally maintained in good condition and many of them provided a satisfactory service.

Estate Dispensaries.—682 Estate Dispensaries were functioning during the year as against 696 in 1948. Of these 151 were inspected during the year. These 682 Estate Dispensaries served 893 estates.

Medical Attendants:

Qualifications of Officers in charge of Estate Hospitals and Estate Dispensaries are as follows:—

	1947	*1948*	*1949*
(*a*) Qualified Medical Officers	3	5	6
(*b*) Indian qualified Medical Officers not not registrable in Ceylon	4	4	4
(*c*) Qualified Apothecaries	1	1	4
(*d*) Approved Dispensers	685	683	674

Sanitary Inspection:

The total number of estates inspected and reported on during the year was 320 compared with 354 in 1948.

General Sanitary Condition:

	1947	*1948*	*1949*
Very good	16	25	14
Good	181	197	165
Fair	112	106	117
Poor	25	25	21
Bad	5	1	3

Of these estates inspected the number of estates having sanitary dust-bins are:—

	1947	*1948*	*1949*
Provided	42	63	47
Provided partially	106	101	87

Line accommodation of those Inspected:

	1947	*1948*	*1949*
(i) No. of estates non-crowded lines	272	278	231
Slightly (10 per cent. or below overcrowded	46	58	56
Over crowded (over 10 per cent.) lines	21	18	33
(ii) No. of line rooms inspected	65,956	68,444	66,970
No. up to Government requirements	58,057	58,604	54,391
No. not up to Government requirements	7,899	9,840	12,579

Latrine Accommodation:

	1947	*1948*	*1949*
(i) *Of those inspected*:			
No. of latrine compartments,			
Pit	10,978	11,368	13,770
Bucket	8,356	7,398	6,354
Water-borne	1,259	1,521	2,284
(ii) No. of latrine compartments further required	1,526	1,252	1,183

	1947	1948	1949
(iii) No. of estates having sufficient number of latrines	252	258	232
Insufficient number of latrines	79	89	78
No latrines	8	7	10
(iv) No. of estates having sanitary conveniences for children:—			
Provided fully	33	33	31
Provided partly	82	65	61
According to type plan:			
Provided fully	34	25	18
Provided partly	53	61	44
ater Supplies:			
(i) Of those Inspected:			
No. of estates having entirely protected supplies	201	201	231
Partly protected supplies	105	114	68
Unprotected supplies	33	39	21
(ii) No. of estates having piped Supplies—			
Wholly	181	109	202
Partly	63	49	49
Well supplies fully protected (covered well with pump)	26	37	23
Partly protected	55	61	13
Other sources of supply—			
Fully protected	4	8	6
Partly protected	21	22	6
nky Treatment:			
No. of estates treated:	248	432	421
No. of persons treated:	95,157	146,084	193,580
aternity and Child-Welfare Work:			
(*a*) *Registered Estate Midwives.*			
(i) In all estates	276	277	272
(ii) No. inspected (Midwives)	125	135	142
(iii) No. of estates served by them	441	435	418
(iv) No. of estates served by outside registered midwives	197	203	151
(*b*) *Un-registered Midwives.*			
(i) No. in all estates	89	177	104
(ii) No. inspected	17	20	22
(iii) No. of estates served	335	180	120
(*c*) *Births.*			
(i) On estates visited	20,454	14,237	14,377*
(ii) On estates having registered midwives	7,033	7,125	9,200
(iii) of (ii) attended by registered midwives	6,050	6,241	8,459
* In Hospitals	—	—	4,731
In Maternity Wards	—	—	4,128
In Lines	—	—	5,518

The percentage of total cases attended to by the registered midwives on estates is 59 of the live irths compared with a percentage of 44 in 1948.

	1947	1948	1949
(*d*) No. of estates having creches	690	673	676
(*e*) No. of estates supplying cooked meals to children of non-working age	357	391	305
(*f*) No. of estates with Maternity wards	230	224	206
(*g*) No. of estates with lying in rooms attached to lines	35	37	31
(*h*) No. of estates having clinics:			
(*a*) On Estates	80	90	70
(*b*) At Hospitals	16	15	16
(*i*) No. of estates served by: outside clinics	105	86	74

	1947	1948	1949
Vaccination against Small-Pox.			
(a) No. of estates in which vaccination was carried out	1,138	1,293	1,203
(b) No. of persons vaccinated	24,851	31,947	40,731
(c) Vaccinations: Successful	21,092	28,343	35,465
Unsuccessful	1,063	636	617
Unknown	2,696	2,968	4,649
Anti-Typhoid Inoculations:			
(a) No. of estates visited	44	69	38
(b) No. of persons inoculated:			
1st Dose	5,998	14,747	6,140
2nd Dose	2,112	8,279	5,715
Communicable Diseases:			
(a) No. of cases reported:			
Chicken-pox	477	470	867
Cholera	—	—	—
Diphtheria	4	3	3
Dysentery	120	141	258
Measles	520	351	155
Mumps	186	31	153
Plague	—	—	—
Puerperal Pyrexia	1	—	—
Small-pox	1	3	1
Tuberculosis	25	42	48
Typhoid Fever	188	158	119
Whooping Cough	51	43	433
(b) No. of visits in connection with Communicable Diseases to estates by Inspecting Officer:			
1st Visit	66	122	198
Subsequent	50	109	166
(c) No. of Visits (Communicable Diseases) by Sanitary Inspectors:			
1st Visit	1,021	955	871
Subsequent	1,424	1,463	1,426
Estate Schools:			
No. of schools	412	452	422
No. of schools medically examined			1
No. of pupils examined			55
No. of schools in inspectorate maintaining register of defects			46
No. of pupils defective			131
No. of defects found			65
No. of defects corrected			4
Estate Schools carrying out Health Education Procedures:			
Completely			2
Partially			—
Mandapam Camp:			
1. No. of labourers passed			44,425
2. No. of others passed			114,076
3. No. of labourers rejected			79
4. No. of others rejected			33
5. No. of passengers subjected to surveillance			87,671
6. No. of passengers completed surveillance			26,405
Thattaparai Camp:			
1. No. of passengers who passed through Thattaparai Camp:			
Estate labourers			Nil
Others after full quarantine			2,048
No. rejected:			
Pyrexia			19
Leprosy			8
Recent attack of chicken-pox			3
Recent attack of small-pox			1
Secondary syphilis			—
Hookworm with V. D. H.			—
Physically unfit for travel			—
Non-production of valid anti-cholera inoculation certificates			79
Scabies			3

2. The following passengers were passed at Tuticorin without quarantine detention at iattaparai Camp:

Estate labourers	Nil
Others	5,341

3. All passengers were subjected to surveillance in Ceylon and completed their period of rveillance here.

(iii) Sanitary Engineering

As in the previous year the division continued its activities with only two Engieers (Messrs. E. B. Anketell, S. E., and V. J. Emmanuel, A. S. E.). The mporary vacancy of A. S. E. in the Rural Hospital Scheme was not filled and large volume of work in connection with Rural Hospitals and Maternity Homes nspections, measurements, retention monies, litigation by contractors, etc.,) ad to be attended to by the Sanitary Engineer and Assistant Sanitary Engineer addition to their increasing duties in connection with Sanitary Engineering orks.

Mr. V. J. Emmanuel, Jr. Assistant Sanitary Engineer, completed the full . M. I. C. E. and was elected an Associate Member of the Institution of Civil ngineers on December 20, 1949, thus qualifying for promotion to the grade of ssistant Sanitary Engineer.

Security in the sums mentioned was furnished by the following officers as they ere required in the normal course of their duties to deal with cash in making ayments in the field or in the office, or are required to certify payment vouchers:

	Rs.
(1) Mr. V. J. Emmanuel, A. S. E., ...	1,500
(2) Mr. A. V. Arulampalam, S. E. A., ...	1,500
(3) Mr. S. Sandrasegerar, E. C. C. I., ... (Chief Clerk).	3,000

The shortage of trained draughtsmen was felt by this Division and the position the Drawing Office was critical. Vacancies were advertised and the following ppointments were made with effect from March 1, 1949.

Mr. D. Kahaduwa Arachchi, Draughtsman, Class II.
Mr. T. Sivanathan, Draughtsman, Class II.
Mr. S. W. Silva, Draughtsman, Class II.

Mr. J. L. Chandraratne was appointed to the temporary post of Draughtsman, lass II, in place of Mr. S. W. Silva, also with effect from March 1, 1949, nd has since been made permanent to fill an existing vancancy.

Mr. A. S. H. M. Najmadeen, who holding the post of Draughtsman, Class I, emporary, Rural Hospital Scheme, to which he was seconded for service from e post of Draughtsman, Class II, left the Division on January 31, 1949, to oin the Town Planner's Department as Drawing Office Assistant.

Mr. P. E. Cooray, Draughtsman, Class II, was appointed to succeed Mr. Najmaeen and has been confirmed in the permanent post of Draughtsman, Class I, hich was allowed.

Mr. S. W. Silva, Draughtsman, Class II, left to join the Electrical Department the same capacity and was released on October 17, 1949.

As there were still a large number of Rural Hospitals and Maternity Homes hich were not completed the temporary posts of Inspectors of Works and Sub-nspector of Works which were vacant were advertised and the following appointents were made:

Mr. F. J. P. F. Karunaratne, Inspector of Works	8. 2.49
Mr. D. T. Gunawardene, Inspector of Works	1. 3.49
Mr. S. U. S. Jayasundera, Sub-Inspector of Works	1.11.49

There are only 13 Overseers at present under the Rural Hospital Scheme. Four verseers who had completed work at their respective centres were transferred o the Anti-Malaria Campaigns to work in the same capacity.

Drainage Schemes

(*a*) Town Surface drainage schemes in hand or awaiting surveys, investigations and designs:—

(1) Kurunegala
(2) Panadura
(3) Dehiwela-Mt. Lavinia
(4) Negombo
(5) Wattala-Mabole-Peliyagoda U. C. Area
(6) Gampaha
(7) Matale
(8) Madampe
(9) Tangalle
(10) Rambukkana
(11) Wattegama
(12) Nawalapitiya
(13) Ambalantota
(14) Weligama
(15) Werawila
(16) Kinniya
(17) Kolonnawa U. C. Area
(18) Beruwela
(19) Jaffna
(20) Valvettithurai.

(*b*) Town Surface Drainage Schemes—investigations and designs completed by the Sanitary Engineer, and ready for construction by the Sanitary Engineer or 'Local Body' under the supervision of the Sanitary Engineer:—

(1) Ambalangoda
(2) Alutgama
(3) Gampaha
(4) Hambantota
(5) Bogawantalawa
(6) Chilaw
(7) Badulla
(8) Matara
(9) Puttalam
(10) Dehiwela-Mt. Lavinia
(11) Trincomalee
(12) Moratuwa
(13) Dambulla
(14) Vavuniya (Park Drain).

(*c*) Surface Drainage for Government Institutions: Surveys, investigations and designs in hand or awaiting surveys, investigations and designs:—

Medical Department :

(1) Hambantota Hospital
(2) Gampaha Hospital
(3) Mannar Hospital
(4) Trincomalee Hospital
(5) Puttalam Hospital
(6) Negombo Hospital
(7) Kandy Hospital
(8) Ratnapura Hospital
(9) Kalutara New Hospital
(10) Batticaloa Hospital
(11) Deniyaya Hospital
(12) Dimbulla Hospital

Police Department:

(13) Police Training School, Katukurunda.

Private Bodies:

(14) Drainage for Co-operative Cottages, Jaffna.

(*d*) Town Surface Drainage: Constructions undertaken by the Sanitary Engineer:—

(1) Batticaloa Drainage Scheme—Outlet Drains (Work completed).
(2) Vavuniya Drainage Scheme—Soosaipillai Outlet (Work completed).

Sewerage Schemes

A large volume of work had to be undertaken; but delays were experienced due to shortage of field and engineering staff. The position is as shown below:—

(*a*) Town Sewage disposal schemes awaiting investigation and designs:

(1) Hambantota
(2) Badulla
(3) Dehiwela-Mt. Lavinia
(4) Ratmalana
(5) Moratuwa
(6) Nuwara-Eliya
(7) Kurunegala
(8) Jaffna Town.

(b) Investigations and designs completed:—

(1) Karaiyoor Housing Scheme.
(2) Kolonnawa U.C. Area (treatment plant).
(3) Second Maternity Home, Castle Street, Colombo.
(4) Hospital of Indigenous Medicine.

(c) Sewage Disposal:—Government Institutions (Medical and other Departments)—Surveys, investigations and designs in hand or awaiting surveys and investigations.

Ministry of Defence:

(1) Panagoda Cantonment, Ceylon Army.
(2) C. D. F. Camp, Diyatalawa.

Irrigation Department:

(3) Gal Oya Construction Township.
(4) Amparai Township (G. D. Board).

P. W. D. and Electrical Department :

(5) Hydro-electric Scheme township (Norton-Bridge).

Agricultural Department:

(6) Girls' Farm School, Kundasale.

Police Department:

(7) Police Training School, Katukurunda.

Railway:

(8) Ratmalana Workshops.

Municipality Kandy:

(9) Mavilmada Housing Scheme.

Public Works Department:

(10) Nuwara Eliya Queen's Cottage.
(11) Residency, Trincomalee.
(12) Residency, Batticaloa.

Education Department:

(13) Training College Hostel, Mirigama.
(14) Central School, Kuliyapitiya.
(15) Training College, Uyanwatte.
(16) Training College, Polgolla.
(17) Training College, Katukurunda.
(18) Central School, Ibbagamuwa.
(19) Central School, Nugawela.

Medical Department:

(20) Kalutara New Hospital.
(21) Kandy Hospital.
(22) Galle Hospital.
(23) Ratnapura New Hospital.
(24) Chavakachcheri Hospital.
(25) Chilaw Hospital.
(26) Batticaloa Hospital.
(27) Mental Hospital, Pelawatte.
(28) Welisara Hospital.
(29) Deniyaya Hospital.
(30) Ragama Chest Hospital.
(31) Udugama Hospital.
(32) Balangoda Hospital.
(33) Dimbulla Hospital.

Miscellaneous Works

Dairy Farm Buildings, Angoda.—All the buildings have been completed. Certain defects in the roof of the Manager's Quarters have yet to be remedied. The contractor has been warned to remedy these without any delay. The following additions and improvements were effected at the Farm:—

(1) All drains were covered with concrete slabs.
(2) A roof was provided for the Acid Water Bath.
(3) Additions were effected to the Stud Bull Shed.
(4) Retiling of roof at the Manager's quarters and providing of ceiling to same building done.
(5) Water trough and paved cement rendered area for the Acid Water Bath were provided.
(6) Flight of steps from the Manager's Quarters to the Dairy Farm was built.
(7) Tenders were called through the Tender Board for the provision of Water Supply to the Manager's Quarters and additions and improvements to the existing water supply at the Farm. The work is in progress.

Karaiyoor Housing Scheme (Construction of Latrines)

Departmental work on the construction of water-sealed latrines was carried out and a portion of the work is in progress yet. Construction of 117 twin latrines was completed and a further block of 55 latrines has been taken up. The C. L. G. has provided funds for the work.

Priority List of Works of S. E.

Of the above works only the following have since been included in an approved priority list. The order of priority is as follows:—

Drainage Schemes :

Top Priority:

(1) Batticaloa Drainage Scheme—Outlet Drains.
(2) Vavuniya Drainage Scheme—Soossaipillai Outlet Drain.

Low Priority:

(1) Kurunegala (Wan-Ela).
(2) Kurunegala (Bu-Ela).
(3) Panadura Town.
(4) Dehiwela-Mount Lavinia.
(5) Kolonnawa U.C. Area.
(6) Negombo Town.
(7) Wattala-Mabola-Peliyagoda U.C. Area.
(8) Gampaha Town.
(9) Matale Town.
(10) Madampe.
(11) Trincomalee.
(12) Puttalam Town.
(13) Tangalla.
(14) Rambukkana Town.
(15) Wattegama Town.
(16) Negombo Hospital.
(17) Mannar Hospital.
(18) Gampaha Hospital.
(19) Kinniya Town.
(20) Drainage for Co-operative Cottages, Jaffna.

Sewerage Schemes

Top Priority:

(1) Panagoda Cantonment, Ceylon Army.
(2) Gal Oya Construction Township.
(3) Amparai Township (G. D. Board).
(4) Karaiyoor Housing Scheme.

(5) New Kalutara Hospital.
(6) New Ratnapura Hospital.
(7) Galle Hospital.
(8) Kandy Hospital.
(9) Training College Hostel, Mirigama.

Low Priority:

(1) Kolonnawa U. C. Area.
(2) Dehiwala-Mount Lavinia.
(3) Welisara Hospital.
(4) Pelewatte Mental Home.
(5) Ratmalana Workshops.
(6) Police Training School, Katukurunda.
(7) Nuwara-Eliya Housing Scheme.
(8) Badulla Town Housing Scheme.
(9) Hospital of Indigenous Medicine.
(10) Ibbagamuwa Central School.
(11) Kundasale Girls' Farm School.
(12) Central School, Nugawela.
(13) Jaffna Town.
(14) Matara Town.
(15) Housing Scheme, Ratmalana.
(16) Mavilmada Housing Scheme, Kandy.
(17) Maintenance of Septic Tanks, Ragama Chest Hospital.
(18) Maintenance of Septic Tanks, Chilaw Hospital.
(19) Soakage Pits at Chavakachcheri Hospital.
(20) Sewerage Scheme, Second Maternity Home, Castle Street, Colombo.
(21) Water-borne Sanitation in Resthouses.
(22) Central School, Kuliyapitiya.
(23) Deniyaya Hospital.
(24) Dimbulla Hospital.
(25) Sewerage Scheme, Hambantota Town.

Miscellaneous Works

Top Priority. Dairy Farm Buildings, Angoda.
Low Priority: Nil.

Rural Hospital and Maternity Homes

(*a*) The following Rural Hospitals were completed during the year:—

(1) Chempianpattu
(2) Kosgama
(3) Panwilatenne
(4) Polgahawela.

(*b*) The following Maternity Homes were completed during the year:—

(1) Eramuddaliyadde
(2) Mankulam
(3) Thambarombuwa
(4) Welipitiya.

(*c*) The following Rural Hospitals are in progress:—

(1) Pothupitiya
(2) Pandatarripu.

(*d*) Work on the following Maternity Homes is in progress:—

(1) Analaitivu
(2) Kalawanchikudy
(3) Mahawelatenne
(4) Mirissa
(5) Puwarasankulam
(6) Valanai.

(e) Minor Staff Quarters for the following Maternity Homes were constructed:—

(1) Murathalawa
(2) Dewilla.

(f) Minor Staff Quarters were in progress at the following Maternity Homes:—

(1) Uwarasankulam
(2) Kalawanchikudi
(3) Mahawelatenne
(4) Hurikkaduwa
(5) Bibile.

(g) The following extra works were completed:—

(1) Mortuary at Ayagama Maternity Home.
(2) Toe Wall and turfing, Uduwela Rural Hospital.
(3) Mortuary, &c., at Induruwa Rural Hospital.
(4) Turfing at Eramuddaliyadde Maternity Home.
(5) Covered Way, Katugastota Maternity Home.
(6) Defects at Alutgama Rural Hospital.

(B) EPIDEMIOLOGY

There was no epidemic of the major infectious diseases during the year. The outbreak of Poliomyelitis which started in April, 1948, continued in 1949, but with diminished severity, as there were only 109 cases compared with 301 in nine months of the previous year.

A fresh survey of the incidence of Filariasis was carried out in the middle of the year with the help of an expert entomologist, Dr. M. O. T. Iyengar, whose services were made available from India by the World Health Organization, South East Asia Region, Delhi. The survey confirmed the findings of the one done in 1948, and control programmes were started in Dehiwala U. C., Kotte U. C. and Matara U. C. towns. Minor control measures were adopted in the other ten endemic areas. A treatment clinic was established in Dehiwala, and Hetrazan was made available for treatment. An adequate allocation of funds was made available. The W. H. O. Expert returned in December and gave a short course of field training to Medical Officers, Sanitary Inspectors and others employed in control measures.

The number of cases and deaths of communicable diseases notified to Medical Officers of Health is indicated in the following tabulated statements. The figures include those in the Municipal towns.

Table XXXIII—Cases of Communicable Diseases notified to Medical Officers of Health

Diseases	*Cases*	*Deaths*
Chicken-pox	9.467	12
Cholera	2	2
Diphtheria	219	30
Dysentery	850	67
Typhoid Fever	2,517	166
Measles	2,193	4
Mumps	1,753	2
Pulmonary Tuberculosis	1,785	284
Plague	—	—
Small-pox	1	—
Whooping Cough	374	5
Poliomyelitis	109	15
Total	19,270	587

TABLE XXXIV—DISTRIBUTION BY PROVINCES OF NOTIFIED COMMUNICABLE DISEASES

Province	*Population*	*Chicken-pox*	*Cholera*	*Diphtheria*	*Dysentery*	*Typhoid Fever*	*Measles*	*Mumps*	*Pulmonary Tuberculosis*	*Plague*	*Small-pox*	*Whooping Cough*	*Poliomyelitis*
Western	2,064,000	3,177	—	168	227	662	1,045	1,011	708	—	—	182	31
Central	1,232,000	1,687	—	21	129	369	157	448	144	—	1	84	20
Southern	1,057,000	1,717	—	12	192	528	490	134	535	—	—	15	28
Eastern	300,000	169	2	1	30	35	25	14	25	—	—	4	1
Northern	525,000	380	—	4	87	150	110	159	138	—	—	—	3
North-Central	157,000	104	—	—	4	33	9	51	8	—	—	3	—
North-Western	732,000	820	—	5	68	189	174	108	123	—	—	17	9
Sabaragamuwa	823,000	1,166	—	6	80	396	131	114	80	—	—	48	16
Uva	407,000	247	—	2	33	155	52	14	24	—	—	21	1
Total	7,297,000	9,467	2	219	850	2,517	2,193	1,753	1,785	—	1	374	109

TABLE XXXV —DISTRIBUTION BY MONTHS OF NOTIFIED COMMUNICABLE DISEASES

	January	February	March	April	May	June	July	August	September	October	November	December	Year
Poliomyelitis :													
Cases ..	3	13	9	5	9	11	8	24	10	11	2	4	109
Deaths ..	1	2	2	1	1	2	1	1	3	—	—	1	15
Chicken-pox :													
Cases ..	745	1,089	1,831	972	728	731	550	478	589	607	637	510	9,467
Deaths ..	—	—	1	4	1	—	—	—	—	1	2	3	12
Cholera :													
Cases ..	—	—	—	—	—	2	—	—	—	—	—	—	2
Deaths ..	—	—	—	—	—	2	—	—	—	—	—	—	2
Diphtheria :													
Cases ..	19	18	11	14	19	42	25	26	10	14	13	8	219
Deaths ..	1	4	1	—	6	5	3	4	—	4	2	—	30
Dysentery :													
Cases ..	77	56	29	32	37	64	78	69	87	125	115	81	850
Deaths ..	5	9	5	3	2	4	4	4	7	15	6	3	67
Typhoid fever :													
Cases ..	162	141	219	164	151	206	202	288	262	268	297	157	2,517
Deaths ..	7	5	17	11	21	12	20	11	19	19	14	10	166
Measles :													
Cases ..	60	121	247	146	138	206	215	202	214	209	214	221	2,193
Deaths ..	—	1	—	—	—	1	1	—	—	1	—	—	4
Mumps :													
Cases ..	89	81	154	162	128	159	160	212	240	126	140	102	1,753
Deaths ..	—	—	1	—	1	—	—	—	—	—	—	—	2
Pulmonary T. B. :													
Cases ..	129	105	206	106	136	164	174	212	159	134	153	107	1,785
Deaths ..	19	8	15	10	15	18	8	11	14	69	40	57	284
Plague :													
Cases ..	—	—	—	—	—	—	—	—	—	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—	—	—	—
Small-pox :													
Cases ..	—	—	—	—	—	1	—	—	—	—	—	—	1
Deaths ..	—	—	—	—	—	—	—	—	—	—	—	—	—
Whooping Cough :													
Cases ..	44	28	23	16	10	—8	32	48	33	37	67	28	374
Deaths ..	—	—	—	1	1	—	—	2	1	—	—	—	5
All cases :													
Cases ..	1,328	1,652	2,729	1,617	1,356	1,594	1,444	1,559	1,604	1.531	1,638	1,218	19.270
Deaths ..	33	29	42	30	48	44	37	33	44	109	64	74	587

Major Communicable Diseases

Plague.—There were no cases of Plague during the year. The last case of rat plague occurred eleven years ago on August 23, 1938, and the last case of human plague occurred on May 29, 1938. The anti-plague measures have been carried out with unabated vigour and are shown in the following statement:—

TABLE XXXVI—ANTI-PLAGUE MEASURES

		1948		*1949*
Commercial premises inspected for rat holes	...	26,969	...	28.086
Rat holes found	...	61.347	...	73,061
Rat holes closed	...	49,375	...	50.547
Number caught	...	27,226	...	28,999
Number of rats examined ...	...	227	...	920

Cholera.—There were two fatal cases of cholera in the Eastern Province in June. Previous to this the last case occurred in December, 1946. The cases occurred at Kiliveddi in the Eastern Province in a locality where illegal landing of persons from India is probable, especially during the South-West Monsoon period.

Small-pox.—One non-fatal case of small-pox occurred in June in the Central Province. This compares favourably with 7 cases and 2 deaths in March and one non-fatal case in May of last year. This case occurred in the person of a labourer in Labukelle Estate, Nuwara Eliya District, who took ill on the day after his return to the estate from a visit to India.

Vaccination against small-pox was done as usual by Vaccinators and Sanitary Inspectors, who possess certificates of proficiency in vaccination. The number of vaccinations done in the various provinces of the Island is tabulated in the following statement:—

TABLE XXXVII

Province	Primary Vaccinations				Revaccinations			
	Total	*Successful*	*Unsuccessful*	*Unknown*	*Total*	*Successful*	*Unsuccessful*	*Unknown*
Western	37,841	34,230	2,396	1,215	7,247	1,280	925	5,042
Central	48,345	40,677	1,467	6,101	6,615	660	770	5,185
Eastern	9,734	8,764	150	820	2,696	720	310	1,666
Northern	13,190	10,420	1,633	1,137	5,184	995	528	3,661
North-Western	30,899	28,422	1,210	1,267	2,142	570	240	1,572
Southern	35,968	31,720	720	3,528	999	170	85	744
North-Central	6,878	5,745	128	1,005	86	—	—	86
Sabaragamuwa	27,015	24,654	719	1,642	797	120	85	592
Uva	15,017	13,650	414	953	571	145	110	316
Total	224,887	198,282	8,837	17,668	26,337	4,660	3,053	18,864

The total number of primary vaccinations is 224,887 compared with 217,017 last year and it represents 77 per cent. of the births.

Minor Communicable Diseases

Poliomyelitis.—The outbreak, which started in April, 1948, gave rise to 301 cases with 37 deaths in that year. It continued with much less severity this year and accounted for 109 cases resulting in 15 deaths. The cases and deaths are shown below by quarters for each of the two years.

TABLE XXXVIII

		First Quarter	*Second Quarter*	*Third Quarter*	*Fourth Quarter*	*Total*
1948:	Cases	Nil	45	167	89	301
	Deaths	Nil	7	19	11	37
1949:	Cases	25	25	42	17	109
	Deaths	5	4	5	1	15

It is noticed that the majority of the cases occurred in the third quarter each year. Though the largest number of cases (163) occurred in the Central Province in 1948, this year there were only 20 cases in that province. The larest number of cases this year occurred in the Western Province (31) compared with 45 last year. The combined total for the Western, Central and Southern Provinces was 222 in 1948 and only 79 in 1949. The Dry Zone (i.e., Eastern, Northern and North-Central Provinces) had only 4 cases in 1949 but 37 in 1948. This year the age group most affected was that under 5 years of age; the incidence was lowest amongst those over 30 years of age, and was the highest in those under four years of age.

Since the disease was made notifiable in 1944 the incidence of notified cases from that year is as follows:—

TABLE XXXIX

Year	*Cases*	*Deaths*
1944	6	—
1945	4	1
1946	—	—
1947	—	—
1948	301	37
1949	109	15

The circular issued in 1948 regarding the symptoms and preventive measures have had the desired effect.

Chicken-pox.—There were 9,467 cases with 12 deaths reported during the year compared with 4,508 cases and no deaths in 1948.

Diphtheria.—There were 219 cases, including 30 deaths, reported as compared with 181 cases and 25 deaths in 1948, and 140 cases with 31 deaths for 1947. The case fatality rate was 13.69 compared with 13.81 in 1948 and 22.14 in 1947.

Measles.—The number of cases reported was 2,193 including four deaths, compared with 2,461 cases with three deaths in 1948, and 3,896 cases with four deaths in 1947. The case fatality rate was 0.18 compared with 0.12 in 1948.

Mumps.—There were 1,753 reported cases, including 2 deaths, compared with 793 cases with one death in 1948. The case fatality rate was 0.11 compared with 0.13 in 1948.

Whooping Cough.—The reported cases totalled 374 including 5 deaths, compared with 323 cases with 3 deaths in 1948. The case fatality was 1.34 compared with 0.93 in 1948 and 2.58 in 1947.

Typhoid Fever.—The number of cases reported was 2,517 with 166 deaths compared with 1,838 cases with 198 deaths in 1948 and 2,096 cases with 273 deaths in 1947. The case fatality rate was 6.59 compared with 10.77 in 1948 and 13.02 in 1947.

The following Table shows the number of anti-typhoid inoculations given in the whole Island for three years:—

TABLE XL—ANTI-TYPHOID INJECTIONS

	1947	1948	1949
First dose	86,521	160,237	81,601
Second dose	59,287	115,527	60,539

Dysentery.—There were 850 cases including 67 deaths reported, compared with 1,061 cases with 116 deaths in 1948, and 1,246 cases with 124 deaths in 1947. The case fatality rate was 7.88 compared with 10.93 in 1948 and 9.95 in 1947.

Malaria.—(See separate section on malaria).

Filariasis.—(See separate section on filariasis).

Parangi (Yaws).—The number of known cases is 3,535 compared with 3,269 in 1948. Of the 3,535 cases, 1,480 were infectious and 2,055 were non-infectious. The largest number of cases continued to exist in the Southern Province—1,830. Treatment by intra-venous injection is done in hospitals, dispensaries and clinics in areas where the disease is found. The cases in Laggala Korale, Matale District, are treated in Pallegama Hospital, and arrangements have been made for field treatment at other centres by the Medical Officers of Health.

TABLE XLI—PARANGI—WORKS DONE BY FIELD OFFICERS

	Cases				*Injections given*					*No. of Cases at the end of Year*		
Province	*Total*	*Infective*	*Non-infective*	*Number treated*	*First*	*Second*	*Third*	*Fourth*	*Total*	*Total*	*Infective*	*Non-Infective*
Western												
Central	210	90	120	110	110	70	40	60	280	210	90	120
Southern	1,950	910	1,040	740	740	310	185	125	1,360	1,830	715	1,115
Eastern	—	—	—	—	—	—	—	—	—	—	—	—
Northern	—	—	—	—	—	—	—	—	—	—	—	—
North-Western	590	300	290	300	240	60	75	80	455	590	300	290
North-Central	640	120	520	240	110	85	64	70	329	640	120	520
Sabaragamuwa	145	60	85	20	18	12	14	10	54	145	60	85
Uva	—	—	—	—	—	—	—	—	—	—	—	—
Total	3,535	1,480	2,055	1,410	1,218	537	378	345	2,478	3,415	1,285	2,130

Ankylostomiasis Campaign

Personnel.—There were 20 Dispensers (compared with 21 in 1948), 18 in the field and 2 at headquarters. These Dispensers were distributed as follows:—

> Four Dispensers worked for the Divisional Medical Superintendent of Health, Anuradhapura, in the Northern, North-Central and Eastern Provinces.

Three Dispensers worked for the Divisional Medical Superintendent of Health, Kurunegala, in the North-Western Province, and Matale District.

Four Dispensers worked for the Divisional Medical Superintendent of Health, Kandy, in the Kandy and Nuwara Eliya Districts, and Uva Province.

Four Dispensers worked for the Divisional Medical Superintendent of Health, Colombo, in the Western Province, and Kegalla, District.

Three Dispensers worked for the Divisional Medical Superintendent of Health, Matara, in the Southern Province, and Ratnapura District.

Two Dispensers were attached to the Office of the Director of Medical and Sanitary Services, Colombo.

Certificates of competency were given in 1949 to 63 Sanitary Inspectors who were therefore competent to assist in mass teratment. Out of 658 Sanitary Inspectors in the field in 1949, 608 possessed certificates of competency.

The work done during the year is summarized in the following Table:—

TABLE XLII—ANKYLOSTOMIASIS TREATMENTS BY ALL AGENCIES IN 1949 AND 1948

	1949			*1948*
	First	*Subsequent*	*Total*	*Total*
Government Institutions :				
(1) At Institutions	835,298	49,321	884,619	880,755
(2) Outside Institutions	66,043	—	66,043	70,246
Campaign Dispensers :				
(1) School Children	347,860	—	347,860	310,488
(2) Villagers	89,910	—	89,910	98,637
(3) Estate Labourers	376,810	—	376,810	393,867
Mandapam Camp	39,985	—	39,985	45,547
Estate Medical Staff	80,187	16,641	96,828	98,882
Total	1,836,093	65,962	1,902,055	1,898,422

There is an increase of 3,633 treatments in 1949 compared with 1948.

TABLE XLIII—

Treatments at Government Institutions

Ankylostomiasis Treatments at Government Hospitals and Dispensaries during the year 1949

Province	*Attendance (First Visits)*	*Treatment*			*Percentage of Total Treatments to First Visits*
		First	*Subsequent*	*Total*	
Sabaragamuwa	1,120,272	86,223	3,458	89,681	8·0
Uva	373,419	38,743	1,729	40,472	10·8
Western	1,246,792	184,756	14,317	199,073	16·0
Eastern	342,899	30,219	2,240	32,459	9·5
Northern	421,738	56,841	2,513	59,354	14·1
Central	749,387	112,113	4,928	117,041	15·6
North-Western	989,446	137,846	6,774	144,620	14·6
North-Central	403,746	45,323	3,138	48,461	12·0
Southern	897,213	143,234	10,224	153,458	17·1
Total for 1949	6,544,912	835,298	49,321	884,619	13·5
Total for 1948	6,660,946	831,706	49,049	880,755	13·2

There has been an increase of 3,864 treatments in 1949 compared with 1948. The percentage of total treatments to first visits has remained almost the same as in 1948 and 1947.

TABLE XLIV—ANKYLOSTOMIASIS TREATMENT GIVEN BY THE MEDICAL OFFICERS OF THE DEPARTMENT OUTSIDE THEIR INSTITUTIONS WITHOUT THE AID OF THE CAMPAIGN DISPENSERS DURING 1949

	Schools		*Estates*		*Villages*		*Total*	
Province	*Number*	*Number Treated*	*Number*	*Number Treated*	*Number*	*Number Treated*	*Number*	*Number Treated*
Central	15	3,452	13	3,543	9	2,717	37	9,712
North-Western	13	2,920	8	2,024	6	1,224	27	6,168
Western	9	2,124	9	2,485	8	2,215	26	6,824
Sabaragamuwa	7	1,826	7	1,631	6	1,240	20	4,697
Southern	15	2,544	6	2,247	9	874	30	5,665
Northern	10	1,973	—	—	10	5,218	20	7,191
Uva	11	4,196	11	3,482	7	2,446	29	10.124
North-Central	12	3,411	12	2,496	12	4,629	36	10,536
Eastern	13	2,108	—	—	8	4,218	21	6,326
Total for 1949	105	24,554	66	17,908	75	24,781	246	67,243
Total for 1948	113	26,875	71	18,309	82	25,062	266	70,246

There is a decrease of 3,003 treatments given in 1949 compared with 1948 though the 1949 figure exceeds the 1947 figure by 8,784.

TABLE XLV—ANKYLOSTOMIASIS TREATED AT MANDAPAM CAMP

1949 Month	*Number arrived*	*Number treated*	*Percentage treated*
January	1,673	1,510	90.3
February	2,669	2,374	88.9
March	4,248	3,845	90.5
April	4,673	4.199	89.9
May	5,199	4,656	89.6
June	5.583	5.043	90.3
July	5,962	5,395	90.5
August	3,398	3,096	91.1
September	3,696	3,350	90.6
October	2,901	2,617	90.2
November	2,425	2,129	87.8
December	1,918	1,771	90.9
Total for 1949	44,375	39,985	90.1
Total for 1948	50,530	45,547	90.1

The decrease of 5,562 treatments in 1949 compared with 1948 is accountable by the fact that the number of passengers who arrived in the Camp was 6,155 less than in 1948. The percentage treated is the same (90.1) as in 1948.

TABLE XLVI—ANKYLOSTOMIASIS TREATMENT GIVEN BY CAMPAIGN DISPENSERS IN SCHOOLS, ESTATES AND VILLAGES

1949	*Number of Units dealt with*			*Treatments*			
Month	*Schools*	*Estates*	*Villages*	*School Children*	*Estate Labourers*	*Villagers*	*Total*
January	120	56	26	11,300	7,000	2,355	20,655
February	131	33	58	29,158	31,420	8,045	68,623
March	178	36	62	45,306	43,080	15,856	104,242
April	45	100	84	26,440	13,281	2,918	42,639
May	157	101	34	21,797	28,278	6,287	56.362
June	177	76	66	39,859	37,154	9,480	86,493
July	154	74	104	25,019	19,071	4,549	48,639
August	67	96	90	25,086	41,526	7,526	74,138
September	120	88	67	37.402	71.068	9,712	118,182
October	124	53	64	16,401	14,877	3.426	34,704
November	122	51	76	31,211	31,592	7,896	70,699
December	113	87	67	38,881	38,463	11,860	89.204
Total for 1949	1,508	851	798	347,860	376,810	89,910	814,580
Total for 1948	1,505	856	800	310,488	393,867	98,637	802,992

The number of treatments exceeds the figure for 1948 by 11,588.

TABLE XLVII—ANKYLOSTOMIASIS TREATMENT REPORTED AS GIVEN BY ESTATE MEDICAL STAFF DURING 1949

Province	*Census of Estates Treated*	*Treatments*			*Percentage of Total treatments to Census*
		First	*Subsequent*	*Total*	
Central	360,271	48,347	9,520	57,867	16.1
Southern	13,720	2,386	1,089	3,475	25.3
Western	32,365	5,460	1,348	6,808	21.0
Sabaragamuwa	110,334	13,723	2,489	16,212	14.7
Uva	77,823	9,940	2,101	12,041	15.5
North-Western	3,217	331	94	425	13.2
Total for 1949	597,730	80,187	16,641	96,828	16.2
Total for 1948	597,244	82,414	16,468	98,882	16.5

There has been a decrease of 2,054 total treatments compared with the figures for 1948, but the total percentage of total treatments to the cases remains almost the same (16.2) as in 1948 (16.5).

TABLE XLVIII—NUMBER OF DAYS SPENT BY ANKY DISPENSERS ON TREATMENT AND EDUCATIONAL WORK AND THE NUMBER OF TALKS GIVEN BY THEM DURING 1949 AS COMPARED WITH 1948

	1949	*1948*
Number of Dispensers	20	21
Number of days spent on treatment	2,695	2,611
Number of days on Anky education	3,409	3,105
Number of villages visited	3,804	3,454
Number of homes visited	80,202	78,733
Number of individual talks given in homes	66,536	65,544
Number of village group talks given	6,306	5,707
Number of school talks with charts given	2,890	2,718

There has been an increase in all the activities though the number of Dispensers was one less than in 1948.

TABLE XLIX—NUMBER OF SCHOOLS, ESTATES AND VILLAGES TREATED BY THE CAMPAIGN STAFF UNDER THE SUPERVISION OF THE VARIOUS OFFICERS OF THE DEPARTMENT DURING 1949

Supervising Officers	*Schools*	*Estates*	*Villages*
Medical Officers of Health	724	420	389
District Medical Officers and Assistants	239	334	255
School Medical Officers	219	—	22
Apothecaries in Charge of Dispensaries	326	97	132
Total for 1949	1,508	851	798
Total for 1948	1,505	856	800

The results are practically the same as last year.

TABLE L—TREATMENTS GIVEN BY THE CAMPAIGN STAFF ON ESTATES DURING THE YEAR 1949

Supervising Officers	*Number of Estates Treated*	*Census*	*Number treated*	*Percentage treated to Census*
Medical Officers of Health	531	176,636	158,874	89.9
Apothecaries in Charge of Dispensaries	66	62,480	43,437	69.5
District Medical Officers and Assistants	276	238,249	174,499	73.2
Total for 1949	873	477,365	376,810	78.9
Total for 1948	856	468,470	393,867	84.1

Though there were 17 more estates treated than in 1948, the number and percentage of labourers treated is less than in 1948.

(C) MEDICAL ENTOMOLOGY

On March 1, 1949, the Research Assistant in Entomology—who had been acting for the Medical Entomologist—went over to the Medical Research Institute with two Laboratory Assistants, two Entomological Assistants and five minor employees to form the Department of Entomology of that Institution.

Thirteen Entomological Assistants, two Laboratory Assistants and eighteen minor employees were transferred to the Division of Anti-Malaria.

The Division of Medical Entomology has not been abolished as recommended in Sessional Paper VIII of 1946. It now consists of a non-new entrant Research Officer in charge, with seven Entomological Assistants, five Laboratory Assistants, two clerks and twenty-five minor employees to assist him in running the division.

The staff needs to be increased and strengthened if the work is to be carried out on modern scientific lines.

Since March 1, 1949, the main work was connected with the study of the mosquito factor in urban and rural filariasis and the means for its control. This necessitated a re-orientation of work, as the vectors of Filariasis are found amongst the tribe *Culicini*, in which there are about 100 different species in Ceylon with varied habits and breeding places and also amongst some of the *anophelines*. Previously, for the past 25 years and more, the main work had been limited to malarial entomology which is limited in Ceylon to some 17 species of the tribe *Anophelini* and one chief vector *A. Culicifacies*. This is borne out by a perusal of the previous Administration Reports.

Investigations into:

(*a*) house-fly nuisances and breeding at the General Hospital, Colombo, and the Mental Hospital, Angoda, were made;

(*b*) whether *Mansoniodes* mosquitoes could pass through their larval and pupal forms in nature in the absence of *Pistia stratiotes* were commenced at Namaneliya in the Southern Province and the preliminary data point to this being very probable;

(*c*) various strengths of D. D. T. wettable powder and Gammexane 3 per cent. larvicide powder on water collections with Culicine breeding and varying degrees of pollution for assessing their suitability as a control measure in the field have just been begun.

In March and April rat-fleas were examined from a survey of commercial and residential premises at Matara. The *X cheopis* index was low—0.1.

Teaching

There were 11 courses consisting of 45 lectures and 137 demonstrations and practical classes given in Medical Entomology to 56 Sanitary Inspectors, 68 Sanitary Learners, and 35 Laboratory and 2 Entomological Assistants under training during the year.

Investigation Work—Laboratory and Field Work

In the laboratory the change over to a study of *culicines* and *anophelines* associated with the spread of filariasis from malarial entomology was effected without any dis-organization. In the field the methods remain the same, the chief differences being in the habits and breeding places of the *culicines*.

(a) **Dehiwala-Mount Lavinia.** This Urban Council Area is 6½ square miles and has a population of about 57,000. It consists of 12,000 houses or more. For purposes of control it has been divided into four divisions, each of which is sub-divided into five blocks. The Control measures during this period have been varied from time to time, *e.g.*, changes in larvicides, changes in the strengths of a larvicide used, changes in the breeding places treated—at first only catch-pits were treated andd subsequently drains too have been added. From Table LI, it will be seen that from March 1 to December 31, the average catching rate is 10.1 per man-hour and the average infection rate is 10.6. Conparing these with the figures for December there does not appear to be an improvement in lowering the transmission of Filariasis by the control measures adopted. The chief vector species was *Culex fatigans*, and it was only in this species that mature failaria larvae were found on dissection and examination of mosquitoes. The filarial infection was of the Bancroftian type.

Table LI—Summary of Entomological Data in Connection with Control Measures adopted by the Superintendent, Filariasis Campaign and Others

1948 December Onwards—Dehiwala-Mount Lavinia

Month	*No. Houses examined*	*No. Positive*	*No. Mosquitoes caught*	*Time taken in hours*	*No. dissected*	*No. infected*	*Infection rate Per cent.*	*Catching rate per man-hour*
December, 1948	179	163	420	—	274	21	7·7	—
January, 1949	369	268	805	—	590	41	6·9	—
February, 1949	363	225	691	—	422	53	12·6	—
March, 1949	500	294	1,061	86	508	72	14·2	12·3
April, 1949	300	144	417	46	163	13	8·0	9·1
May, 1949	695	355	824	112	382	46	12·0	7·4
June, 1949	936	485	1,467	146·6	659	104	15·8	10·0
July, 1949	702	365	1,417	92·2	603	59	9·8	15·4
August, 1949	523	270	1,079	67·3	734	93	12·7	16·0
September, 1949	880	468	1,448	221·7	1,032	83	8·0	6·5
October, 1949	800	358	895	199·3	613	48	7·8	4·5
November, 1949	800	413	1,374	200·3	929	88	9·5	6·9
December, 1949	600	396	1,391	150·2	934	107	11·5	9·3
Total	7,647	4,204	13,289	1,321·6	7,843	828	10·6	10·1

(b) **Kotte Urban Council Area.**—It is six square miles and has a population of about 39,000. There are about 8,800 houses in this area. A preliminary survey of this area was started in August, and the results of the adult findings are given in Table L11. The catch per man-hour is 11.8 and the infection rate 7.7. Mature filaria larvae in infected mosquitoes were found only in *C. fatigans*, the chief vector of Bancroftian or urban filariasis. The fact that 10 out of 208 *Taeniorhynchus* (*Mansonioides*) *uniforms* dissected were found positive, though with the younger stages of W. Malayi larvae, denotes that in Kotte both urban and rural filariasis is present, the latter type being less common.

TABLE LII.—KOTTE URBAN COUNCIL.—ENTOMOLOGICAL SURVEY OF FILARIA VECTOR, SPECIES

Total Mosquitoes collected	*Time taken in hours*	*Catching rate per man-hour*	*Females*							*Remarks*
						No. Positive		*Infection rate*		
			Genus and Species	*No.*	*No. dissected*	*All Forms*	*Mature Forms*	*All forms taken into Account*	*Mature Filaria larvae only*	
3,719	314¾	11·8	Culex fatigans	1,432	1,230	156	22	12·7	1·8	Culex spp. damaged 13
			Culex gelidus	330	272	1	0	0·4	—	Aedes spp. damaged 3
(1059)			Culex bitaeniorhynchus	26	21	0	0			
ales			Culex tritaeniorhynchus	436	359	0	0	—	—	The stray infection in C. gelidus is not of much importance
			Culex sitiens	12	12	0	0			
			Culex fuscanus	11	8	0	0			
			Culex minutussimus	8	7	0	0			
			Culex nigropunctatus	4	4	0	0			
			Culex fuscosephalus	1	1	0	0			
			Taeniorhynchus (M) uniformis	309	208	10	0	4·8		
			Taeniorhynchus (M) annuliferus	23	18	0	0			
			Taeniorhynchus crassipes	4	2	0	0			
			Ficalbia (spp.?)	1	0	0	0			
			Armigeres obturbans	3	3	0	0			
			Aedes aegyptii	9	6	0	0			
			Aedes albopictus	7	7	0	0			
			Aedes pipersalatus	7	6	0	0			
			Aedes lineatopenis	3	3	0	0			
			Anopheles subpictus	18	13	0	0			
3,719	314¾	11·8		2,644	2,180	167	22	7·7	1·0	

(c) Matara Urban Council Area

It is 4 square miles with a population of about 24,000. There are about 3,400 dwellings. The catch per man-hour is 20.6 and the infection rate 10.7 Mature filaria larvae were found only in C. Fatigans, which transmits *Wuchereria bancrofti* the parasite which produces Urban Filariasis. Over 70 per cent. of the mosquitoes collected were *C. fatigans*. The catching rate per man hour is high. This is due to the numerous water collections, especially coconut-husk pits which are associated with the coir industry here. Table L111 gives a summary of the entomological survey.

(For Table LIII see page 90)

The recurrent expenditure on larvicides, which have so far not yielded results expected from them, and control measures will be heavy until the people become more health conscious and a proper water-carriage sewage disposal scheme is established in all these areas. Such sewerage schemes will prove cheaper in the long run and will also reduce the number of bowel diseases, especially worm infestation, which exists as a major medical problem in the Island today.

(*d*) From June until the end of July this Division co-operated with Dr. M. O. T. Iyengar of the World Health Organisation, when he came here to review and advise the Government of Ceylon on measures for filariasis control. Field investigations, as required by him, were carried out at Dehiwala-Mount Lavinia, Hettipola Toppur, Beruwela, Induruwa, Ambalangoda, Matara, Kolonnawa, Colombo Municipal area, Galle Municipal area and Kandy Municipal area. A total of 6,938 mosquitoes were identified, of which 2,433 were dissected and 273 found to be positive for filaria larvae, and in addition 1,660 larvae were identified. All this work was done in this laboratory by the staff of this division.

(e) Fly Surveys

Two fly surveys were undertaken, one at the General Hospital, Colombo, and the other at the Mental Hospital, Angoda. The former was conducted in March, when the existing dry and hot weather was not favourable for fly-breeding. The foci of fly breeding in the Main and Ragama sections were dealt with. The chief causes of fly breeding were—

(i) the overcrowding with the consequent lack of toilet facilities for patients;

(ii) the incinerator in the Ragama section was built years ago and has not been enlarged in proportion to the growth of the hospital; and

(iii) the lack of hospital owned refuse-lorries, which could convey the garbage, &c., not only of this institution, but that of the other neighbouring medical institutions to the Municipal Destructor at Prince of Wales Avenue daily.

The latter was conducted in May under better conditions for breeding. The chief focus of flying-breeding was the Sewage Treatment Works, which is intended for 1,500 or at most 1,800 persons, but now deals with the excreta of at least double the number of persons.

Research

Bio-assays on the value of some insecticides and larvicides and the study of the bionomics of *Mansonioides* mosquitoes in water collections not containing *Pistia stratiotes* were commenced towards the end of the year, and are being continued.

TABLE LIII—MATARA—ENTOMOLOGICAL SURVEY OF FILARIA VECTOR SPECIES

Total Mosquitoes collected	*Time taken in hours*	*Catching rate per man hour*	*Genus and Species*	*Females*						*Remarks*
				No.	*No. dissected*	*No. Positive*		*Infection rate*		
						All forms	*Mature forms*	*All forms taken into account*	*Mature filaria larvae only*	
6,468	315	20·6	Culex fatigans	4,590	3,593	393	93	10·9	2·6	Culex spp. damaged 134
			Culex gelidus	120	58	2	—	3·4	—	All specimens received dead were not dissected
			Culex bitaeniorhynchus	9	9					
			Culex tritaeniorhynchus	20	2					There were 2 stray infections in C. gelidus which are not importent
			Culex sitiens	34	2					
			Culex fuscanus	4	2					
			Culex minutissimus	28						
			Culex nigropunctatus	1						
			Taeniorhynchus (M) uniformis	3						
			Aedes aegypti	2						
			Aedes pipersalatus	4						
			Anopheles subpictus	19	6					
			Anopheles vagus	2	1					
			Anopheles barbirostris	5	2					
6,468	315	20·6		4,841	3,675	395	93	10·7	2·5	

(D)—SPECIAL DISEASES

(1)—Malaria

During the year under review, there was no major change in the general heme of malaria control in Ceylon. Residual spraying of houses against e malaria vector continued to be practically the only weapon in the fight hich has been as successful as in the two previous years. The improvement health conditions recorded in 1947 and 1948 was not only maintained but further improvement was noted.

The most important change effected in the malaria organisation was the ansfer on March 1, 1949, of a portion of the staff and equipment of the Division Entomology to the Anti-Malaria Campaigns Division.

Dr. L. F. Gunaratne, Medical Officer, Anti-Malaria Campaign, since May, 946, left on study leave in September, 1949, and Dr. M. H. M. Abdul Cader as been posted in his place.

The Superintendent, Anti-Malaria Campaigns, was awarded a travel fellowship y the World Health Organization and visited Italy, Sardinia, Cyprus, Cairo nd London.

TABLE L IV

	1940	*1945*	*1948*	*1949*
Staff :				
Superintendent, A. M. C.	1	1	1	1
Medical Officers, A. M. C.	1	1	2	2
Clerks	1	2	9	9
Sanitary Inspectors	10	8	39	39
Entomological Assistants	—	—	—	14
Laboratory Assistants	7	7	7	9
Transport Foreman	—	—	1	1
Minor Staff:				
Peon	1	1	1	1
Laboratory Attendants	2	2	2	2
Laboratory Cleaners	1	2	2	2
Field Attendants	—	1	1	18
Office Labourer	1	1	1	1
Night Watchers	—	—	2	2
Mechanics	—	—	3	3
Tinkers	—	—	—	2
Carpenter	—	—	—	1
Assistant Mechanics	—	—	2	2
Kanganies	10	8	1	1
Stores Labourers	—	—	8	8
Driver Overseers	—	—	15	15
Overseers, A. M. C.	4	35	80	80
Drivers	—	—	35	41
A. M. C. Labourers	148	102	697	650
Masons	1	4	—	—

The present staff of the Division will be seen from the above Table. It shows how this Division has expanded within the past three years in order to cope with the extension of the Island-wide Scheme of Malaria Control by residual spraying of houses.

Malaria Epidemiology

1. *Meteorological Conditions*:—

The study of the meteorological conditions affecting malaria in Ceylon is a regular feature of this Division. Rainfall is the chief climatic factor which influences the incidence of malaria in this country, as drought results usually in epidemic outbreaks in the Wet and Intermediate Zones and excessive rainfall in the Dry Zone to increased seasonal prevalence of malaria in that zone. In 1949, the wet and intermediate zones had regular rainfall which kept the rivers and streams flushed frequently and favourable conditions for *A. Culicifacies* breeding were not created. In the Dry Zone, except in the Batticaloa and Trincomalee Districts, there was a partial failure of the North-East Monsoon rains. Thus, this year as a whole can be considered as unfavourable for any unusual exacerbations of malaria conditions except in the Eastern Province.

2. *Malaria Morbidity:—*

Malaria morbidity, as judged by the returns submitted by the Officers in charge of dispensaries and hospitals, has shown a further decline of about 50,000 visits in the current year. The morbidity per 1,000 of population is 100 as compared with 109 last year, 196 in 1947 and 413 in 1946. There is still a tendency on the part of officers in charge of dispensaries to diagnose, as a matter of habit and practice, a case of fever in the once malarial areas as a case of malaria. In order to test the accuracy of the diagnosis, blood films from clinically diagnosed cases were called for from the officers in charge of dispensaries. Out of a total of 2,904 blood films sent to this laboratory as having been taken from clinically diagnosed malaria cases, only 232 or 8 per cent. were positive for malaria parasites. In the earlier years, the percentage used to be about 20.

TABLE LV. MALARIA MORBIDITY FOR THE ISLAND

Year	*Estimated Population*	*No. of Malaria Cases*	*Morbidity Rate per 1,000*
1936	5.631,000	2,947,555	523
1937	5.712,000	2.308,976	404
1938	5,810,000	2,053,079	353
1939	5.897,000	3.210,795	541
1940	5.951,000	3,413,618	574
1941	6,020,000	3,220,360	535
1942	6,021.000	3.225,477	536
1943	6,134,000	2,141.329	349
1944	6,276,000	1.672,478	266
1945	6,496,000	2.539,949	391
1946	6,695,000	2.768.385	413
1947	6,879,000	1,350,521	196
1948	7,100.000	775,276	109
1949	7.297.000	727,769	100

There were three localities where there were outbreaks of malaria during the year, namely, Polonnaruwa, Elahera and certain parts of the Batticaloa District. In the first two areas, the Land Development Department undertook extensive development schemes and brought in outside labour and housed them in temporary cadjan sheds without having them sprayed previously with a residual insecticide. This gave rise to an outbreak in the labour camps. This was investigated and several of these huts were found to harbour adult. *A. Culicifacies* which was found breeding in the nearby cleared land in the midst of which the huts were situated.

As far as the Batticaloa District is concerned, the absence of proper communications with many ferries, and causeways and streams which become impassable for vehicular traffic during the rainy season combined with the habit of the people of leaving their homes and camping out during harvesting and other periods in temporary sheds makes the protection of the people in certain parts of the district rather difficult. While the incidence of malaria in the accessible areas is reduced considerably, the same reduction is not noticed in the inaccessible areas.

Parasite Surveys

In addition to the completion of the examination of the blood films taken in the 1948 September Survey, there were two other surveys in March, 1949, and September, 1949. The examination of the blood films taken during these surveys was also completed during this year.

TABLE LVI—SUMMARY OF BLOOD EXAMINATIONS FOR MALARIA PARASITES

Particulars		*September, 1948*	*March, 1949*	*September, 1949*
Number examined		20,815	21,644	22,196
Number positive		112	52	54
Parasite rate		0·5	0·2	0·2
*Species Prevalence				
Benign tertian	%	24·1	9·6	22·2
Malignant tertian	%	23·2	36·5	22·2
Quartan	%	54·5	55·8	59·3

* One mixed infection of B.T., M.T. and Quartan in Kandy District in September, 1948.
One mixed infection of B.T. and Quartan in Batticaloa District in March, 1949.
Two mixed infections of B.T. and Quartan in Batticaloa District in September, 1949.

The predominance of Quartan over the other species may be noted. This is, perhaps, another indication that there is no active transmission taking place.

TABLE LVII—PARASITE RATES FOR THE ISLAND BY PROVINCES AND DISTRICTS FOR THE YEARS 1938-49

	March 1938	*March 1939*	*March 1940*	*March 1941*	*Sept. 1946*	*Sept. 1947*	*March 1948*	*Sept. 1948*	*March 1949*	*Sept. 1949*
Western Province	0·6	1·4	0·8	0·6	1·1	0·08	0·02	0·0	0·0	0·0
Colombo Negombo	0·5	1·4	0·9	0·6	1·3	0·1	0·04	0·0	0·0	0·0
Kalutara	0·6	1·1	0·4	0·7	0·7	0·0	0·0	0·0	0·0	0·0
Central Province	4·2	3·8	0·4	3·1	2·8	0·4	0·2	0·2	0·3	0·1
Kandy	2·2	2·3	2·3	2·7	2·3	0·3	0·1	0·3	0·2	0·1
Matale	10·9	6·3	5·1	6·8	0·9	0·7	0·5	0·3	0·4	0·2
Nuwara Eliya	5·7	1·1	2·3	1·2	5·0	0·7	0·4	0·0	0·2	0·0
Southern Province	6·7	5·2	4·9	8·0	2·8	0·4	0·2	0·3	0·04	0·04
Galle	0·1	1·2	1·1	1·6	0·7	0·2	0·0	0·0	0·0	0·0
Matara	7·1	5·5	6·1	11·6	4·3	0·2	0·0	0·2	0·0	0·07
Hambantota	20·7	12·8	10·7	14·5	3·6	0·9	0·7	0·8	0·2	0·0
Northern Province	2·5	3·6	3·1	N.S.	2·5	0·7	0·5	0·4	0·04	0·0
Jaffna	1·5	2·2	1·9	—	0·5	0·4	0·1	0·06	0·0	0·04
Mannar	3·8	6·1	6·6	—	7·8	2·0	1·2	0·9	0·3	0·0
Vavuniya	8·0	10·3	5·1	—	0·8	0·0	1·5	1·3	0·0	0·3
Eastern Province	8·1	8·1	13·5	N.S.	4·5	1·6	2·0	1·0	0·8	1·8
Batticaloa	8·1	8·4	14·8	—	5·1	1·8	2·2	0·7	1·0	2·3
Trincomalee	7·9	6·7	9·3	—	0·3	0·6	1·2	1·6	0·0	1·0
North-Western Province	7·5	7·5	5·9	5·6	8·9	1·9	1·3	1·1	0·4	0·5
Kurunegala	8·2	8·3	7·2	6·7	10·1	2·6	1·6	1·1	0·6	0·6
Puttalam	16·3	7·0	6·7	2·3	5·0	1·1	1·7	2·4	0·0	0·5
Chilaw	2·1	5·2	2·9	8·6	6·7	0·5	0·6	0·6	0·1	0·1
North-Central Province Anuradhapura	8·2	11·4	11·3	N.S.	3·6	2·7	1.8	2·8	0·8	0·2
Uva Province Badulla	7.9	3·2	5·1	3·5	2·2	1·2	0.9	1·2	0·6	0·6
Sabaragamuwa Province	1·5	4·8	5·3	3·9	3·9	1·1	0·2	0·2	0·1	0·1
Ratnapura	1·8	6·7	9·1	8·1	4·8	0·9	0·1	0·4	0·2	0·2
Kegalle	1·3	3·2	2·8	0·9	3·3	1·2	0·2	0·1	0·1	0·0
No. Exd.	14653	21690	19906	12427	19368	20129	20057	20813	21644	22196
Ceylon :—										
Rate	4·5	5·1	5.6	3.7	3.6	0.9	0.6	0.5	0.2	0.2

N.S. = Not surveyed.

A study of the parasite rates by Provinces and Districts shows that there was a general improvement in the parasite picture in 1949 as compared with the previous years. As pointed out in the earlier paragraph, Eastern Province is the worst off. Both Batticaloa and Trincomalee Districts show evidence of transmission. So far as the other Provinces and Districts are concerned, the results are gratifying, particularly in the North-Central Province, where many of our food production schemes are in progress.

Spleen Surveys

Spleen surveys of children in about 1,550 selected schools in the different parts of the country were carried out by Medical Officers of Health and Medical

Officers in March and September of this year. There is a general reduction in these rates. The Spleen rate for the Island has come down from 21.2 in 1938 to 1.8 in September, 1949.

TABLE LVIII—SPLEEN RATES FOR THE ISLAND BY PROVINCES AND DISTRICTS FOR THE YEARS 1938-49

	March 1938	*March 1941*	*Sept. 1946*	*March 1947*	*Sept. 1947*	*March 1948*	*Sept. 1948*	*March 1949*	*Sept. 1949*
Western Province	3·8	2·7	1·9	1·8	0·7	0·9	0·7	0·5	0·15
Colombo Negombo	5·1	2·9	2·6	2·3	0·8	1·2	1·0	0·7	0·2
Kalutara	0·9	2·2	0·6	0·3	0·3	0·2	0·05	0·01	0·1
Central Province	22·4	13·2	5·4	4·2	2·8	2·3	1·2	1·5	1·1
Kandy	15·9	8·6	3·6	2·2	1·6	1·4	1·2	1·1	0·6
Matale	52·8	34·1	10·4	15·0	12·4	8·9	5·1	2·6	2·3
Nuwara Eliya	16·3	10·8	15·2	9·1	1·8	2·2	1·5	2·7	2·5
Southern Province	15·0	26·1	15·5	11·6	9·3	6·8	2·5	2·3	0·8
Galle	2·4	2·3	2·5	0·5	0·3	0·4	0·01	0·3	0·3
Matara	9·4	30·7	12·1	9·2	7·3	2·6	0·6	0·5	0·5
Hambantota	61·3	69·2	52·2	47·4	27·0	30·0	12·4	9·7	3·1
Northern Province	15·2	11·6	10·3	9·5	5·3	3·9	2·8	2·1	0·6
Jaffna	9·1	4·9	4·3	2·3	2·1	1·1	0·6	1·2	0·3
Mannar	31·7	36·8	22·5	33·7	11·1	12·0	10·3	4·3	0·4
Vavuniya	77·1	63·6	65·3	52·2	32·9	23·3	16·0	9·1	4·0
Eastern Province	43·7	30·0	20·0	17·9	15·5	11·0	7·9	6·2	5·1
Batticaloa	42·3	32·5	20·9	16·7	13·1	9·4	6·9	3·8	3·6
Trincomalee	49·9	23·2	15·9	21·1	21·2	15·2	9·8	11·6	8·6
North-Western Province	37·6	32·4	23·2	23·8	18·8	12·9	8·0	6·3	4·7
Kurunegala	41·3	40·1	33·2	30·8	23·0	15·9	9·4	7·8	5·8
Puttalam	69·2	38·0	46·1	31·6	24·5	17·5	8·0	4·5	3·6
Chilaw	20·4	12·4	6·2	6·3	4·7	4·1	4·0	2·4	1·6
North-Central Province Anuradhapura	64·7	76·6	38·5	36·9	27·1	18·3	12·6	7·1	5·3
Uva Province Badulla	26·0	28·6	16·3	9·6	8·0	7·8	5·0	4·5	3·4
Sabaragamuwa Province	16·4	15·5	9·0	6·4	4·6	2·9	1·9	1·1	0·8
Ratnapura	14·9	11·3	7·9	8·7	4·9	2·9	2·3	1·0	0·7
Kegalla	17·4	11·6	9·9	4·0	4·3	2·9	1·7	1·1	0·9
No. Exd.	144873	137179	129514	137716	156901	167996	179242	184307	186550
Ceylon :— Rate	21·2	18·4	11·8	10·3	7·6	5·8	3·5	2·7	1·8

The total number of schools showing rates of 20 per cent. and over are about 50. They are found in Vavuniya North and South Divisions of Northern Province, Hiriyala Hatpattu, Wanni Hatpattu and Devamedi Hatpattu of North-Western Province, Manmunai Pattu South, Bintenna Pattu and Wewagam Pattu of Batticaloa District, Tamblegam and Kottiyar Pattus of Trincomalee District, Walapone of Division of Nuwara Eliya District and in Wellassa and Bintenna Divisions of Uva Province.

Entomological Investigations

With the transfer to this Division on March 1, 1949, of a portion of the staff of the Division of Medical Entomology, this work was reorganised with a view to getting information of anopheline adult prevalence in different parts of the Island and with a view to checking up the efficiency of the residual spraying with insecticides and their effects on anopheline larval breeding. Each Entomological Assistant was assigned a definite District to work in. As a rule, he did adult catching (both hand catching and spray catching) in houses in the mornings. In the afternoons, he examined breeding places (both rivers and streams, wherever present, and village breeding places) for anopheline larvae.

The Subsidiary Observation Sites Work done by Sanitary Inspectors was reorganised by the omission of sites in areas where no epidemics are known to have occurred in the past ten years. Even the rest of the sites were classified into Category A which are examined regularly every fortnight and Category B which are examined only when so directed by the Superintendent, Anti-Malaria Campaigns. The latter will usually be examined only when drought conditions set in. Though oiling of rivers and streams was abandoned, it is felt that the earliest specific indication of the on-set of pre-epidemic conditions would become available as a result of this work.

Table LIX—Summary of Entomological Investigations Carried out at Subsidiary Observation Stations—1949

(a) *Wet Zone*

M. O. H's Area	*No. Sites*	*No. Exams.*	*No. Spate*	*No. pos.*	*Tot. Anop. larv.*	*No. A. cul.*	*Times pos. A. cul.*	*Months pos. for A. cul.*
Akuressa	5	136	47	3	125	—	—	—
Ambalangoda	4	109	11	14	107	—	—	—
Galle (Four Gravets)	1	7	2	—	—	—	—	—
Aranayake	5	79	16	21	923	—	—	—
Baddegama	3	4	2	—	—	—	—	—
Dehiowita	8	187	29	34	1,054	—	—	—
Daulagala	2	33	7	1	5	1	1	March
Deniyaya	6	74	24	5	107	—	—	—
Dehiwala	4	27	4	12	289	—	—	—
Kotte	1	1	1	—	—	—	—	—
Eheliyagoda	7	134	22	16	217	—	—	—
Gampola	5	127	12	2	41	—	—	—
Horana	5	89	28	7	117	—	—	—
Hiniduma	3	14	—	—	—	—	—	—
Homagama	1	13	5	5	87	—	—	—
Kalutara	6	17	2	—	—	—	—	—
Kegalle	6	139	48	31	535	—	—	—
Kadugannawa	7	97	21	10	193	21	2	May
Kamburupitiya	1	24	3	—	—	—	—	—
Induruwa	7	88	18	4	26	—	—	—
Mawanella	3	105	17	22	384	—	—	—
Moratuwa	4	28	1	—	—	—	—	—
Mulhalkelle	1	19	4	10	144	—	—	—
Matugama	6	52	2	12	133	—	—	—
Agalawatta	8	44	—	6	141	—	—	—
Nawalapitiya	5	110	27	37	1,202	2	1	February
Padukka	5	115	33	44	1,065	—	—	—
N. W. K. Ratnapura	8	81	15	7	79	—	—	—
K. K. E. Ratnapura	7	99	34	2	10	—	—	—
Unawatuna	5	120	30	26	388	—	—	—
Warakapola	6	108	52	16	366	—	—	—
Yakkala	13	283	80	12	180	—	—	—
Yatiyantota	7	45	4	10	195	1	1	March
Weligama	2	45	4	19	205	—	—	—
Total	167	2,653	605	388	8,318	25	5	

(b) *Dry Zone*

M. O. H's Area	*No. Sites*	*No. Exams.*	*No. Spate*	*No. Pos.*	*Tot. Anop. larvae*	*Tot. No. A. cul.*	*Times Pos. A. cul.*	*Months pos. for A. cul.*
Badulla	7	146	13	22	854	8	4	June, September
Bandarawela	2	40	1	20	295	—	—	—
Dambulla	3	29	22	1	29	—	—	—
Koslanda	6	100	4	5	75	—	—	—
Maturata	2	26	4	2	74	—	—	—
Nuwara Eliya	2	24	6	8	146	—	—	—
Urugala	3	74	12	33	639	34	2	May, July
Walasmulla	1	12	—	4	45	—	—	—
Weeraketiya	1	17	4	6	118	—	—	—
Total	27	468	66	101	2,275	42	6	

Table LX

(c) *Intermediate Zone 1949*

M.O.H's Area	*No. Sites*	*No. of Examinations*	*No. Spate*	*No. Positive*	*Total Anop. larv.*	*No. of A. cul.*	*Times positive A. cul.*	*Months pos. for A. cul.*
Akurana	5	87	9	3	66	—	—	—
Ankumbura	2	23	—	—	—	—	—	—
Alpitiya	8	235	44	33	893	—	—	—
Balangoda	8	138	32	—	—	—	—	—
Dankotuwa	3	67	23	10	149	—	—	—
Galigamuwa	6	141	22	41	690	2	1	April
Galagedera	4	42	7	3	28	—	—	—
Hakmana	5	171	7	—	—	—	—	—
Ja-Ela	6	87	18	34	628	1	1	August
Matara	2	39	8	—	—	—	—	—
Nattandiya	4	96	4	2	9	—	—	—
Negombo	7	122	47	33	1,024	1	1	May
Pannala	6	58	25	7	264	9	2	February, March
Rambukkana	5	62	15	5	90	—	—	—
Rattota	4	53	—	32	739	1	1	February
Tangalle	2	60	11	42	318	—	—	—
Talatu Oya	11	199	8	22	433	3	1	April
Teldeniya	5	84	14	8	131	—	—	—
Wattegama	9	241	41	53	1,019	25	2	April
Matale	10	96	29	41	666	—	—	—
Total	112	2 101	364	369	7,147	42	9	

TABLE LXI—SUMMARY OF ROUTINE ENTOMOLOGICAL INVESTIGATIONS—1949

Adult Mosquitoes

(*a*) *Dry Zone*

Locality	*Station*	*Houses Exd.*	*Percent. houses pos. for Anop.*	*Anophelines*			*Culicines*
				Total	*Man hour catch*	*A. cul.*	
A.—Controlled Area :—							
(I) Hill-Country	Taldena	385	—	—	—	—	3
	Urugala	233	—	—	—	—	45
	Badulla	1,084	—	—	—	—	50
	Welimada	573	—	—	—	—	18
	Total	2,275	—	—	—	—	116
(II) Low-Country	Dambulla	294	0·3	1	0·02	—	64
	Anuradhapura	4,367	0·5	49	0·08	—	4,659
	Aluthnuwara and Minipe	285	—	—	—	—	243
	Inginiyagala	131	10·7	37	1·9	31	27
	Ampari	80	—	—	—	—	88
	Maha Oya	253	1·2	5	0·14	—	1
	Valaichenai	250	1·2	5	0·13	—	60
	Bibile	222	0·45	4	0·14	2	15
	Pottuvil	259	12·4	78	2·01	—	16
	Batticaloa	757	1·06	20	0·18	—	99
	Moneragala	270	—	—	—	—	1
	Kalkudah	313	1·6	7	0·17	—	52
	Medagama	286	0·4	1	0·03	—	25
	Hambantota	1,318	3·9	85	0·51	1	16
	Tissamaharamaya	664	5·7	87	1·07	23	6
	Total	9,749	1·8	379	0·3	57	5,375
B.—Un-controlled Area :—							
Low-Country	Anuradhapura	752	11·04	272	3·3	251	127
	Maho	1,433	33·5	1,321	6·6	—	1,361
	Total	2,185	25·8	1,593	5·7	251	1,488
	Total	14,209	5·2	1,972	1·3	308	6,979

TABLE LXII—SUMMARY OF ROUTINE ENTOMOLOGICAL INVESTIGATIONS—1949

Adult Mosquitoes

(*b*) *Intermediate Zone*

Locality	*Station*	*Houses Exd.*	*Per cent. houses pos. for Anop.*	*Anophelines*			*Culicines*
				Total	*Man hour catch*	*A. cul.*	
(I) Hill-Country	Matale	425	0·5	2	0·03	—	182
	Teldeniya	584	0·7	4	0·04	—	148
	Talatu Oya	493	—	—	—	—	266
	Harispattu	90	—	—	—	—	21
	Wattegama	444	0·7	3	0·04	—	174
	Rattota	91	—	—	—	—	69
	Total	2,127	0·4	9	0·02	—	860
(II) Low-Country— (*a*) Northern Section	Galagedera	182	1·1	2	0·06	—	38
	Rambodagalla	977	—	—	—		502
	Mawatagama	905	0·7	7	0·04	—	723
	Kurunegala (Doratiyawa)	760	0·6	6	0·04	—	358
	Rikillagamuwa	1,134	0·4	6	0·03		470
	Polgahawela	1,360	0·1	2	0·008	—	1,311
	Pothuhera	850	—	—	—	—	658
	Kosgollagedera	935	—	—	—	—	395
	Pannala	935	0·1	1	0·006		795
	Polgahawela Village Groups	2,300	2·2	5	0·01	—	1,406
	Alawwa	848	0·1	1	0·006	—	348
	Maharachimulla	911	0·2	2	0·01	—	226
	Boyawalana	870	—	—	—	—	360
	Bujjgamuwa	798	—	—	—	—	136
	Alawwa Village Groups	1,505	—	—	—	—	423
	Total	15,270	0·2	32	0·01		8,144
(*b*) Southern Section	Godakawela	905	0·2	2	0·02	—	152
	Walasmulla	470	3·2	29	0·46	—	47
	Tangalla	732	2·9	47	0·6		5
	Weeraketiya	610	1·1	12	0·2		4
	Hakmana	441	3·2	26	0·35	—	2
	Total	3,158	1·9	116	0·3	—	210
	Total	20,555	0·5	157	0·06	—	9,211

TABLE LXIII—SUMMARY OF ROUTINE ENTOMOLOGICAL INVESTIGATIONS—1949

Anopheline Larvae

(a) Dry Zone

Locality	*Station*	*B. PP. Exd.*	*Larv.*	*Larv. rate*	*A. culicifacies*	
					River & Stream	*Village B. PP.*
—Controlled Area :—						
(I) Hill-Country	Taldena	261	1,112	14·6	20	—
	Urugala	115	457	6·3	—	—
	Badulla	1,029	3,556	14·1	—	—
	Welimada	354	954	8·4	—	—
	Total	1,759	6,079	11·8	20	—
(II) Low-Country	Dambulla	121	831	27·2	—	—
	Anuradhapura	1,412	5,717	21·3	139	13
	Aluthnuwara and Minipe	188	1,670	43·7	—	—
	Inginiyagala	95	191	14·04	44	—
	Ampari	60	297	20·9	—	—
	Maha Oya	232	2,561	55·7	473	—
	Valaichenai	240	766	23·4	—	—
	Bibile	102	771	34·2	—	2
	Pottuvil	164	1,359	51·2	—	—
	Batticaloa	643	2,957	38·8	—	—
	Moneragala	194	1,263	38·9	10	1
	Kalkudah	172	803	34·7	—	—
	Medagama	180	797	22·5	—	—
	Hambantota	1,111	2,110	5·1	—	—
	Tissamaharamaya	833	1,672	5·5	9	76
	Total	5,747	23,765	17·3	675	92
—Un-controlled Area :— Low-Country	Anuradhapura	95	849	41·9	26	2
	Maho	286	6,272	90·9	—	1
	Total	381	7,121	84·2	26	3
	Total	7,887	36,965	25·4	721	95

TABLE LXIV—SUMMARY OF ROUTINE ENTOMOLOGICAL INVESTIGATIONS—1949

Anopheline Larvae

(b) Intermediate Zone

Locality	*Station*	*B. PP. Exd.*	*Larv.*	*Larv. rate*	*A. culicifacies*	
					River & Stream	*Village B. PP.*
(I) Hill-Country	Matale	165	817	20·6	—	—
	Teldeniya	257	1,214	23·8	—	—
	Talatu Oya	226	1,024	31·6	—	—
	Harispattu	26	149	36·8	—	—
	Wattegama	179	1,314	28·8	—	—
	Rattota	58	176	14·4	—	—
	Total	911	4,694	25·3	—	—
(II) Low-Country (a) *Northern Section*	Galagedera	80	497	21·9	—	—
	Rambodagalla	630	1,928	15·6	—	3
	Mawatagama	692	1,281	11·8	—	—
	Kurunegala (Doratiyawa)	466	829	11·6	—	—
	Rikellagamuwa	865	1,913	15·9	71	4
	Polgahawela	765	2,151	17·1	8	—
	Pothuhera	705	2,247	11·1	—	—
	Kosgollagedera	671	2,596	29·3	—	—
	Pannala	787	1,592	13·7	—	—
	Polgahawela Village Groups	1,618	4,776	23·1	19	—
	Alawwa	649	1,404	9·6	—	—
	Maharachimulla	1,604	2,120	10·2	—	—
	Boyawalana	852	2,106	11·2	71	—
	Bujjgamuwa	795	1,470	8·2	4	—
	Alawwa Village Groups	1,412	2,472	9·6	—	—
	Total	12,591	29,382	14·2	173	7
(b) *Southern Section*	Godakawela	646	2,432	13·6	—	—
	Walasmulla	630	720	3·4	—	—
	Tangalle	787	833	3·9	—	—
	Weeraketiya	779	1,055	5·2	—	—
	Hakmana	693	859	3·7	—	—
	Total	3,535	5,899	5·7	—	—
	Total	17,037	39,975	12·1	173	7

Table LXV—Anopheline Prevalence in Houses, Anuradhapura and Vicinity, 1940-1949

(Mean catching rates per hour—day-time catches)

Month	1940–45	1946	1947	1948	1949
(a) Town :					
January	3·6	0·01	0·2	0·05	0
February–April	0·2	0·003	0·3	0·06	0·3
May–June	7·4	0·005	3·1	0·03	0·02
July–October	0·8	0	0·02	0	0
November–December	21·0	0·06	0·1	0·01	0·08
(b) Village (Sprayed) :					
January	—	—	—	0	0·09
February–April	—	—	0·06	0·05	0
May–June	—	—	0·6	0·01	0
July–October	—	—	0·2	1·9	0
November–December	—	—	0·1	5·3	0·3
(c) Village (Unsprayed-Control) :					
January	12·0	2·0	0	3·7	0
February–April	7·3	0·06	0·1	1·0	2·9
May–June	0·7	0	0·8	14·4	0
July–October	0·2	0	0·2	23·5	4·3
November–December	23·8	1·3	12·9	19·7	9·4

Table LXVI—Anopheline Prevalence in Houses, Anuradhapura and Vicinity, 1948-1949

(Mean catching rates per hour—night-time catches)

Month	*Jaffna Junction (Town) Sprayed*		*Mankadawala (Village) Sprayed*		*Ponnarankulama (Village) Unsprayed*	
	1948	*1949*	*1948*	*1949*	*1948*	*1949*
January	—	0	—	0	—	1·9
February	—	0	—	0	—	3·8
March	—	0	—	0	—	0·4
April	—	0	—	0	—	0
May	—	0	—	0	—	0
June	—	0	—	0	—	0
July	0·4	0	0	0	34·5	0·3
August	0	0	0	0	23·4	0
September	0	0	0	0	36·0	20·5
October	0	0	0	0	14·1	7·7
November	0	0	0·4	0	15·0	4·7
December	0	0	0	0·7	7·0	—

Malaria Control

The general scheme of Malaria Control during 1949 was a continuation of what was done in the previous year. Practically all the areas which used to be moderately endemic to hyper-endemic had residual spraying of their houses at intervals of six weeks and in a few cases at eight weekly intervals. There were small inaccessible areas, particularly in the Eastern Province, Uva Province and in Ratnapura (Kolonne) which could not be approached by the available units. Arrangements have been made to take up these areas in the next year.

The insecticide used mainly was D. D. T. Though D. D. T.-Xylene-iton emulsion was used in the previous year it was changed to the water ttable powder containing 50 per cent. D. D. T. This reduced the cost of e scheme considerably. Many people did not take kindly to this formulation there was a complaint that the new preparation disfigured the walls and oilt the furniture. The opposition was more marked in urban areas. So far, its effect on malaria transmission was concerned there was no cause for omplaint as judged by results. On an average, the dosage aimed at was 100 illigrams per square foot. As a heavy residual deposit of D. D. T. had already ollected on the sprayed surfaces over the past two years with the change over rom 50 per cent. Wettable D. D. T. to 70 per cent. Wettable D. D. T. in ovember, 1949, the dosage was reduced to 50 milligrams per square foot by sing a 2½ per cent. suspension instead of the 5 per cent. suspension of 50 er cent. Wettable D. D. T. used prior to that date. This reduction of osage has not adversely affected the results of control, even though November nd December are the two months when Anopheline prevalence is at its ighest.

TABLE LXVII—RECURRENT EXPENDITURE ON MALARIA CONTROL ORGANIZATION

Details	*1947*		*1948*		*1949*	
	Rs.	*c.*	*Rs.*	*c.*	*Rs.*	*c.*
alary and allowance of staff and subordinate officers	173,479	42	177,318	97	254,629	80
Wages	444,900	40	767,213	66	828,481	11
Travelling (subsistence and batta)	32,042	42	73,255	3	104,596	97
Transport	90,136	80	114,061	60	115,858	24
Equipment and materials	1,390,488	56	2,700,283	8	1,506,542	87
Rent of stores and garage	328	78	737	20	1,045	36
Drugs	—		—		48	16
Total	2,131,376	38	3,832,869	54	2,811,202	51

1947

No. of applications	1,761,293
Cost per application	Rs. 1·21 (approx.)

1948

No. of applications	3,359,457
Cost per application	Rs. 1·14 (approx.)

1949

No. of applications	3,563,767
Cost per application	Rs. 0·79 (approx.)

Benzene Hexachloride in the form of Gammexane P. 520, a suspension powder, was tried on a larger scale than in previous years. This was applied at a dosage of 10-11 milligrams per square foot as a residual spray at intervals of six weeks. Two truck units (Kurunegala and Hingurakgoda) and two walking units (Kurunegala Town and Inginiyagala) used Gammexane exclusively. Sprayed at intervals of six weeks, this was not inferior to D. D. T. The residual effect held good for this period. Though there was some doubt at the start as to what reception it will have from the people on account of its odour it is gratifying to record that the people including town dwellers preferred Gammexane P. 520 to D. D. T. Wettable powder. This is chiefly due to the Gammexane having a more rapid knock-down effect on insects and also to its effect on flies which have developed a resistance to D. D. T. It is hoped to use Gammexane in more of our units than in the past.

Special mention may be made of the control measures in Inginiyagala in connection with the Gal Oya Dam Construction. Here the problem was not only the prevention of malaria, but also the control of mosquitoes and other insect pests. This camp which has two rivers, the Gal Oya and Namal Oya, on two sides was kept comparatively free of mosquitoes and flies. Except on one occasion in June, 1949, on all other occasions the control measures were successful. Even in this one instance, it was due to a personal factor and not due to any defect in the scheme. The breeding places were treated weekly with a 5 per cent. D.D.T. solution in light diesel oil at the rate of 2 quarts per acre using a hand sprayer of the ' Flit-gun ' type. Gammexane P. 520 is used as a residual spray on houses and on fly breeding and resting places. The inmates of the camp and visitors are satisfied. There has been no case of malaria amongst the American residents who constitute a non-immune population easily susceptible to the disease.

There were 31 truck units, 11 jeep units and 22 walking units functioning during the year. In certain sparsely populated areas, the jeep unit is more suitable and more economical than the truck unit. In the next year it is proposed to replace three of the truck units by five smaller jeep units.

TABLE LXVIII—LIST OF D. D. T. UNITS IN 1949

Province	*Truck Units*	*Jeep Units*	*Walking Units*
W. P.	Colombo		
	Mirigama		
	Negombo		
C. P.	Kandy		Mulhalkelle
	Wattegama		Hanguranketa
	Matale		Rattota (Laggala)
S. P.	Matara	Weeraketiya	
	Hakmana		
	Walasmulla		
	Hambantota		
	Tangalla		
N. P.	Chavakachcheri	Vavuniya	Pungudutivu
	Mannar	Medawachchiya	Delft
			Kokkilai
			Puthukudiaruppu
			Silavaturai
			Marichchikuddi
N. W. P.	Kurunegala	Puttalam	Kurunegala (Town)
	Polgahawela	Wariyapola	Rambodagalla
	Narammala	Galgamuwa	Tittawela
	Kuliyapitiya		Titagandahaya Korale East
	Wariyapola		Titagandahaya Korale West
	Chilaw		Hewawissa Korale
	Puttalam		Weuda
			Gandahaya Korale
E. P.	Trincomalee	Batticaloa	Inginiyagala
	Batticaloa		
	Kalmunai		
	Akkaraipattu		
Uva. P.	Badulla	Bibile	Medagama
	Monaragala		Hambegamuwa
			Taldena
N. C. P.	Anuradhapura	Kekirawa	Anuradhapura
	Kekirawa	Anuradhapura	
	Hingurakgoda	Kahatagasdigiliya	
Sab. P.	Alpitiya		
	Rambukkana		

esults of Malaria Control

Reference has already been made to malaria morbidity, spleen rates and arasite rates. These rates for 1949 are the lowest on record.

Another special instance which confirms the claim that malaria transmission as been effectively stopped in hyper-endemic areas is the case of the 500 amilies which were shifted to Hingurakgoda from the Kotmale Division of uwara-Eliya District. These form the Kotmale Colony in Hingurakgoda. hey are a non-immune susceptible population. They have completed over two ears' stay at Hingurakgoda passing through at least two malaria seasons. A pleen and parasite survey was conducted in November, 1949, and 535 children ere examined. It is gratifying to record that the spleen and parasite rates mongst these children was 0 per cent., not a single infection having been etected.

(ii)—TUBERCULOSIS

In view of the importance assigned to Tuberculosis control work repeated onsultations were held with representatives of the World Health Organization nd the International Tuberculosis Campaign with a view to intensifying the ork which has already been started and for starting new projects which would urther materially the programme of work connected with the control of uberculosis.

So far as the Departmental activities are concerned they fall broadly into the wo main categories of hospitalization of the sick and the prevention of the pread of the disease among contacts and others.

International co-operation will be forthcoming in regard to both these aspects. t is proposed under this joint scheme of work to develop a central laboratory nd dispensary and to carry out B. C. G. vaccination on a mass scale.

The improvement of the available facilities will, it is expected, enable the Department in association with the University of Ceylon to undertake the specialized training of Medical Officers and Nurses in this speciality which at present has to be undertaken in countries abroad.

Dr. J. R. Wilson who was trained in Tuberculosis on a Government Scholarship returned to the Island after obtaining his M.D. (London), M.R.C.P.(London), and was appointed to the Welisara T. B. Hospital. The complete Unit of one Medical Officer, one Hospital Nurse, one Public Health Nurse and one Sanitary Inspector who were sent to the United Kingdom for training in Tuberculosis have now returned and are employed in the work for which they were specially trained.

Dr. A. T. S. Paul who was sent for training in Thoracic Surgery has obtained his F.R.C.S. (England, Scotland and Ireland) and is at present doing postgraduate work in his speciality.

Training of Medical Officers in India was continued and two officers were sent for the D. T. D. Course at the University of Delhi in January, 1949.

Dr. H. M. Vanderwall, the T. B. Officer in charge of preventive work, was sent to Denmark to follow a course arranged by the Danish Red Cross Society for foreign T. B. Doctors.

Curative Work

The most important need from the curative point of view is the provision of additional beds for infective cases. Unfortunately during the year under review no increase of beds for T. B. patients has been possible.

The scheme for the conversion of the Puttalam Military Hospital and the Agricultural Camp at Wirawila has not been finalised yet.

TABLE LXIX—HOSPITAL BEDS

T. B. Institutions	*1949*	*Civil Hospitals*	*1949*
Ragama	444	Galle	52
Welisara	614	Kandy	31
Kandana	129	Kankesanturai (Keerimalai)	125
Talagolla	32	Eheliyagoda	24
		Undugoda	31
Kankesanturai	84	Hambantota	12
		General Hospital (Regent Street Section)	80
Total	1,303	Total	355

The personnel engaged on T. B. work is given in TABLE LXXII.

Reported deaths of T. B. as recorded by the Registrar-General do not show an appreciable increase. The figures cannot still be accepted as being accurate and must be regarded as an under-estimate particularly in regard to the non-proclaimed areas where the Registrars are non-medical persons.

TABLE LXX—REGISTRAR-GENERAL'S REPORT

T. B. Deaths Registered in Ceylon

	1948	*1949*
Tuberculosis of the Respiratory System	3.771	3,866
Tuberculosis of the other organs	279	250
Disseminated Tuberculosis {Acute Chronic}	22	19
Total Deaths from Tuberculosis	4,072	4,135

TABLE LXXI—TUBERCULOSIS STATISTICS

(*Hospital In-Patients.*)

Type of Disease	*1948*		*1949*	
	Cases	*Deaths*	*Cases*	*Deaths*
1. Pulmonary Tuberculosis	10,114	1,992	10,646	1,879
2. T. B. of Meninges or Central Nervous System	146	53	133	54
3. T. B. of Intestines or Peritoneum	136	41	140	28
4. T. B. of Vertebral Column	35	1	116	4
5. T. B. of Bones and Joints	81	4	107	2
6. T. B. of other organs—				
(*a*) Skin or Subcutaneous Tissue	23	—	46	—
(*b*) Bones	24	1	24	1
(*c*) Lymphatic System	268	3	375	10
(*d*) Genito-Urinary	24.	—	38	2
(*e*) Other Organs	47	1	56	3
7. T. B. Desseminated (*a*) Acute (*b*) Chronic	130	15	230	17
Total	10,928	2,111	11,911	2,000

Table IXXII—Personnel, 1949

Institution	Major Staff																					Minor Staff															
	Medical Officers	Assistant Medical Officers	Secretaries	Mother Superiors	R. N. Sisters	Nurses	Matrons	P. H. Nurses	Health Visitors	X'Ray Technicians	Apothecaries	Sanitary Inspectors	Hospital Clerks	Laboratory Assistants	Telephone Operators	Seamstresses	Stewardesses	Overseers	Male Attendants	Female Attendants	Engine Drivers	Boilerman	X'Ray Attendants	Lab. Cleaners and Attendants	Nurses' Cooks	Cooks	Nurses' Ayahs	Orderlies	Peons	Watchers	Gate-keepers	Labourers	Ambulance Drivers
Ragama	1	2	—	1	13	—	—	—	—	1	2	—	3	1	—	—	—	—	47	18	1	1	—	—	1	8	1	3	—	4	2	33	—
K. K. S. Sanatorium	1	1	—	—	—	5	1	—	—	—	2	—	—	2	—	—	1	1	15	13	—	—	—	1	—	4	1	1	—	1	—	13	—
Kandana	1	1	—	—	—	4	1	—	—	—	1	—	1	—	—	—	1	—	14	9	—	—	—	1	—	2	2	1	—	1	2	19	—
Welisara	2	4	—	1	9	14	1	—	—	1	3	—	5	1	3	1	1	3	64	27	—	—	—	2	2	16	5	5	1	8	4	50	—
Chest Clinic, Galle	1	1	—	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	2	1	—	—	—	—	—	—	—	—	1	—	—	1	—
Talagolla	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	6	3	—	—	—	—	—	—	—	—	—	1	—	5	—
A. T. I.	1	1	—	—	—	—	1	—	—	2	1	—	2	1	—	—	—	—	5	—	—	—	—	—	—	—	—	1	—	1	—	5	1
Superintendent's Office, T. B. C. ..	1	—	1	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	2	—
M. O., T. B. Survey	1	—	—	—	—	—	—	1	—	—	—	1	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	—	1	—
M. O., B. C. G. Campaign ..	—	3	—	—	—	3	—	—	—	—	—	—	4	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
M. O., Chest Clinic D. R.	1	—	—	—	—	1	—	—	—	—	1	—	1	—	—	—	—	—	1	—	—	—	—	1	—	—	—	1	—	2	—	4	—
M. O., Preventive	—	1	—	—	—	1	—	1	5	1	—	—	2	—	—	—	—	—	—	1	—	—	—	—	—	—	—	2	—	—	—	1	—
Total ..	10	14	1	2	22	29	4	2	5	5	11	1	22	5	3	1	3	4	156	72	1	1	—	5	3	30	9	14	5	18	8	134	1

TABLE LXXIII—ATTENDANCE AT CHEST CLINICS, 1948–1949

	A. T. I.		*T. B. Survey*		*K. K. S. and Jaffna*		*Galle, Hambantota, Deniyaya and Ambalangoda Clinics*		*Preventive Section, Colombo*		*Chest Clinic, Darley Road*	
	1948	*1949*	*1948*	*1949*	*1948*	*1949*	*1948*	*1949*	*1948*	*1949*	*1948*	*1949*
First visits	17,840	22,985	837	749	1,341	900	8,113	9,968	—	1,725	—	2,087
Subsequent visits	42,310	36,486	963	—	—	—	16,891	16,291	—	515	—	1,829
Total	60,150	59,471	1,800	749	1,341	900	25,004	26,259	—	2,240	—	3,916
No. of X'Ray and Fluroscopy examinations	29,864	33,836	1,605	999	1,266	508	5,957	6,737	—	2,240	—	1,974
No. Hospitalized	2,040	1,620	52	30	—	29	342	388	—	34	—	142
Contact Examinations												
No. of contacts examined	1,523	1,459	473	2,501*	10	—	582	536	—	2,003	—	—
No. Mantoux tested	—	—	244	2,501	38	—	324	186	—	1,561	—	—
No. positive	—	—	172	898	18	—	153	82	—	1,220	—	—
Percentage positive	—	—	70·5	35·9	47·3	—	47·2	44·1	—	78·2	—	—

* Including school children

TABLE LXXIV—TREATMENT AT SPECIAL T. B. INSTITUTIONS

	Welisara		*Ragama*		*Kandana*		*K. K. S. Sanatorium*		*Talgolla*		*Total*	
	1948	*1949*	*1948*	*1949*	*1948*	*1949*	*1948*	*1949*	*1948*	*1949*	*1948*	*1949*
Remained at the beginning of	347	614	403	469	129	146	82	80	29	30	990	1,339
Admitted	1.449	1.355	859	769	223	183	90	74	41	40	2,662	2,421
Died	483	355	270	236	42	29	7	6	9	15	811	641
Discharged	699	841	523	512	206	184	85	71	30	23	1,543	1.631
Remaining at the end of	614	773	469	490	104	116	80	77	31	32	1,298	1,488
Per cent. of deaths to total treated	26·8	18·0	21·4	19·1	11·9	8·8	4·1	3·9	12·8	21·4	22·2	17·0

PREVENTIVE WORK

The Anti-Tuberculosis work of the Public Health Department of the Colombo nicipality was transferred to this Department in June, 1949, and the staff mprising one Medical Officer, five Health Visitors and one X-Ray Technician re placed under our control.

This has enabled a co-ordinated plan of T. B. Control work to be planned for e whole Island.

aff

The staff consists of the Medical Officer in charge, an Additional Medical fficer who also assists in the conduct of the B. C. G. Campaign; five Health sitors (2 male and 3 female) and one Public Health Nurse; and X-ray Techni- an, a Nurse, a female Attendant and two dark-room Attendants; a Clerk; a atcher; Labourers and a Cycle Orderly are shared with the Clinic Medical fficer at Darley Road. The staff is adequate.

lombo Cases

There were 358 cases of Pulmonary Tuberculosis in Colombo, registered in the cords of the Health Visitors when they were transferred to this Department. his is a small number for a city with a population of 350,000; and the morbidity te, according to these figures, would be 0.102 per cent.

In December, 1949, the number of known cases of Pulmonary Tuberculosis in olombo was 536, and the morbidity rate then worked out at 0.15 per cent.

No cases of extra Pulmonary Tuberculosis were found in the records on taking ver. One case was found at the Clinic towards the end of the year.

TABLE LXXV—NOTIFICATIONS FOR COLOMBO, JULY-DECEMBER

Month	*Notified by*					*Total No. of Notifications*	*Not Traced*
	M. O., ATI	*M. O., Chest Clinic, Darley Road*	*Preventive M.O.,T.B. Campaign*	*Hospitals*	*General Practitioners*		
uly	60	8	2	26	10	106	17
ugust	50	4	3	14	35	106	33
eptember	54	5	5	24	8	96	31
ctober	31	21	6	7	13	78	42
ovember	31	11	12	20	11	85	32
ecember	17	2	6	16	12	53	25
Total	243	51	34	107	89	524	180

Contact examination was started on an organized basis for the first time in olombo.

TABLE LXXVI

Age in Years	*Number Tuberculin Tested*	*Number Tuberculin Positive*	*Percentage Tuberculin Positive*
1	39	18	46.15%
2	57	23	40.35%
3	63	41	65.07%
4	63	43	68.25%
5	67	49	73.13%
6	65	51	78.46%
7	62	47	75.80%
8	61	46	75.40%
9	60	48	80.00%
10	62	44	70.96%
11	48	34	70.83%
12	54	42	77.77%

Age in Years	*Number Tuberculin Tested*	*Number Tuberculin Positive*	*Percentage Tuberculin Positive*
13	41	34	82.92%
14	37	33	89.18%
15	36	28	77.77%
16	28	26	92.85%
17	27	22	81.48%
18	29	23	79.31%
19	22	19	86.36%
20	19	14	73.68%
21	31	28	90.32%
22	35	32	91.42%
23	37	33	89.18%
24	36	32	88.88%
25	19	17	89.47%
26	32	29	90.62%
27	13	12	92.30%
28	34	31	91.17%
29	22	17	77.27%
30	31	24	77.41%
31	10	10	100%
32	21	16	76.19%
33	16	11	68.75%
34	12	10	83.33%
35	35	31	88.57%
36	15	14	93.33%
37	13	12	92.30%
38	23	22	95.65%
39	5	4	80.00%
40	25	23	92.00%
41	4	3	75.00%
42	10	9	90.00%
43	11	11	100%
44	8	4	50.00%
45	22	17	77.27%
46	8	7	87.50%
47	3	3	100%
48	11	10	90.90%
49	7	5	71.42%
50	19	16	84.21%
51	6	5	83.33%
52	9	8	88.88%
53	1	1	100%
54	1	1	100%
55	9	9	100%
56	3	3	100%
57	—	—	—
58	—	—	—
59	—	—	—
60	8	5	62.50%
61	2	1	50.00%
62	—	—	—
63	1	1	100%
64	1	—	—
65	6	4	66.66%
66	3	2	66.66%
67	1	1	100%
68	—	—	—
69	1	1	100%
70	1	1	100%
Total	1,561	1,221	78.2%

TUBERCULOSIS SURVEY

The Medical Officer-in-Charge of the Survey was on duty leave in Europe from the end of January, 1949, to 15th May, 1949. Dr. G. P. Abraham, who returned to the Island in January after obtaining the T.D.D. (Madras), acted for him during this period.

aff

The T. B. Survey Staff consisted of the Medical Officer-in-Charge, the Special ade Public Health Nurse, the Sanitary Inspector, Clerk, Peon, and Labourer. art from the necessity for an Attendant, for the employment of whom thority was granted at the end of the year, the Staff is adequate for present rposes.

ork Done

) *Routine Work*

1. All known cases and contacts in the Kotte area were regularly checked up, e cases at least once a month, and the contacts at least once in 3 months. addition, persons under observation as a result of suspicious lesions were gularly checked up. The T. B. Survey van continued to prove useful in the ansport of examinees to the Anti-Tuberculosis Institute.

Efforts were continued throughout the year to persuade as many patients as ossible to enter Hospital.

2. A re-survey of the Schools in Kotte was commenced during the year and ill be completed in 1950.

B) *Special Work*

1. A Sanitary Inspector sent from Panadure was trained for three weeks in uberculosis field work, and successfully passed a written and oral examination eld at the end of the course.

2. Lectures and demonstrations on Tuberculosis Control measures were given o two batches of Medical Students and one batch of Public Health Nurses.

3. The care and after-care work of the Tuberculosis Social Service Association f Kotte was carried out and developed during the year. A grant of Rs. 1,000 vas given to this Association by the Central Government.

Of the 18 new cases of Pulmonary Tuberculosis for the year, 6 were found s a result of field work and contact examinations, and 12 were notified. Without Mass Radiography investigations can only be carried out on a limited scale, and nainly in the field of contact examination. It is conceivable that without the nvestigations carried out the 6 cases found would not have been known.

There were 64 known cases of Pulmonary Tuberculosis in the area at the eginning of the year, and 63 at the end of the year. The entire population f the area is 36,000 and the morbidity rate is therefore 0.18 per cent. The morbidity calculated for the original survey sample of 5,085 was 2.08 per cent., and the difference, in addition to the discovery of 6 cases in necessarily limited nvestigations, gives an indication of the unknown potential reservoir of infection n the area which can be estimated with reasonable accuracy when Mass Miniature Radiography is available for a survey of the entire area.

There were 16 deaths of known cases during the year. This works out at approximately 1 death for 4 cases, and the mortality rate for the area is 44.5/100,000 population. The original survey sample, kept under observation for the purpose of calculating the mortality rate had a rate of 470/100,000 population.

	Original Survey Sample 1942-43 (5,085)	*Entire Kotte Area—1949* (36,000)
Morbidity rate	2.08%	0.18%
Mortality rate	470/100,000	44.5/100,000

Of the Sputum Positive cases, all were hospitalized during the year except 4 cases, two of whom had satisfactory home isolation under Western treatment, one of whom used a Tuberculosis booth, and one (under Ayurvedic treatment) whose home isolation was unsatisfactory.

749 first visits were paid to the T. B. Survey Clinic at the Anti-Tuberculosis Institute, and 999 X-Rays were taken. Owing to a shortage of films at certain periods throughout the year, screening was done in place of X-Ray photography at most of the subsequent visits.

Laboratory Examinations

Type of Examination	*1948*	*1949*
Sputum :		
Direct smear positive	33	6
Culture positive	—	1
Sedimentation Rates	8	8
Blood Differential counts	382	235

The lack of facilities for gastric lavage has been felt, particularly in respect of early infiltrations and in suspected primary diseases where the diagnosis has been in doubt.

Tuberculin Tests :

Number fully investigated	2,135	2,501
Number positive	1,273	898
Percentage positive	59.62%	35.9%

A greater number of Tuberculin tests were carried out in the Kotte area in 1949 as compared with 1948, due to the commencement of the schools re-survey.

TABLE LXXVII—INFECTION RATES IN SCHOOLS

Age		*1944–45*		*1947*		*1949*	
5–10 Males	(Mantoux)	24·59%		17·06%		22·12%	
5–10 Females	,,	32·90%		25·77%		18·36%	
10–15 Males	,,	38·41%		30·16%		34·70%	
10–15 Females	,,	42·26%		32·46%		42·03%	
5–10 Total	,,	28·53%		20·83%		20·40%	
10–15 Total	,,	40·49%		31·76%		37·21%	
Total Males	,,	31·22%		24·86%		28·26%	
Total Females	,,	37·89%		29·38%		30·24%	
Total number examined	5–10 Males	492	957	502	980	348	642
	5–10 Females	465		478		294	
Total number examined	10–15 Males	453	983	522	1,072	487	782
	10–15 Females	530		550		295	

It is of interest to note that in the first two School Surveys only children living within the Kotte area were investigated and the fall in the 1947 rates may possibly have some association with the control work done in the area. In 1949, to obtain a bigger sample, it was decided to include all children in the Kotte Schools, including the large number who lived outside the area. This survey has still to be completed, but from the figures already obtained it is seen that the rates show a similarity, though on a slightly lower level, to the original rates before Control work was commenced. The possibility therefore exists that the rates have been influenced by the large number of children from outside the control area, making the sample similar to the original sample before measures were commenced.

In the rates for the current year, the female infection rate in the 5-10 age groups is less than the rate for males, while a marked difference in the other direction was noted in 1944-45 and also in 1947. This high rate in 1944-45 has obviously influenced the preponderance of Mx: Positives in the females 10-15 age group in 1949, and also in 1947.

B. C. G. CAMPAIGN

With a view to starting a B. C. G. Campaign during this year consultations ere held with representatives of the International Tuberculosis Campaign, who ndertook to provide necessary assistance in the form of demonstration personnel, uipment, tuberculin and vaccine.

As a result of the consultations, an agreement was signed by the Ministry of ealth, Ceylon, and the International Tuberculosis Campaign early in 1949 and cal personnel were appointed to work in the campaign which was scheduled to ommence in March, 1949. One Medical Officer (Dr. H. M. Vanderwall) was nt to Copenhagen in January for a course organized by the Danish Red Cross Tuberculosis work in general and on B. C. G. Vaccination in particular. . N. I. C. E. F. also provided him with experience of the field conduct of a . C. G. Campaign in Czechoslovakia.

A Scandinavian demonstration team consisting of a Doctor and two Nurses ere sent to Ceylon in March, 1949. Three local teams had already been ppointed (each consisting of a Doctor, a Nurse and a Clerk) and had been given preliminary course of training by the Acting Medical Officer-in-Charge. Their aining was completed after the arrival of the Scandinavian team, who worked ith them.

The campaign which was scheduled to be carried out in Colombo in the first stance, and subsequently expanded to include the outstations, was inaugurated y the Hon. Minister of Health and Local Government on March 14, 1949, nd B. C. G. Vaccine was given for the first time in Colombo on March 28, 1949.

The Nursing staff and the Attendants in Colombo Hospitals were the first group ealt with, and subsequently other adult groups were tested and vaccinated.

The Medical Officer-in-Charge of the B. C. G. Campaign returned to Ceylon n May 15, 1949. Shortly after his arrival arrangements were made to occupy e B. C. G. Bureau in the Darley Road Clinic, which then became the Head-uarters of the Campaign. Prior to this, the Campaign had operated from the nti-Tuberculosis Institute, where accommodation and facilities were insufficient. iling cabinets were installed and a central B. C. G. Registry was inaugurated.

Intensive propaganda was then commenced for a schools campaign in Colombo, nd this was launched on July 7, 1949. Very shortly before this campaign was unched, considerable Press publicity was given to criticisms of B. C. G. accination, and doubt as to its efficacy and safety. Editorial comment was lso made, expressing these doubts, and opinions of doctors who did not favour . C. G. vaccination were given prominence. This unfavourable Press publicity, oth in English and Vernacular papers, created major obstacles to the conduct f the schools campaign; and very large numbers of parents, who had previously onsented to the testing and vaccination of their children, withdrew their consent, any by telegram.

In spite of this, however, all possible efforts were made to establish confidence nd to press on with the work, and in the period of one month, before the August chool holidays commenced, 3,675 school children had been tuberculin tested nd 1,667 (over 90 per cent. of the negative reactors) had been vaccinated. uring the school holidays, adult groups were dealt with, and school work was gain commenced in September.

1. Re-testing of vaccinated personnel was first carried out and re-vaccinations ere done where necessary.

2. Tuberculin testing was commenced among school children in the control rea of Kotte, and 2,937 children were tested. No vaccination was done among his group, nor will vaccination be done in the members of the group who will e tested early in 1950.

3. While the above two activities were being carried out, further propaganda as conducted in the Colombo schools; where tuberculin testing and vaccination as again commenced in the first week of November. 2,289 children were then

tested, and 888 (93 per cent. of the negative reactors) were vaccinated in the month before the December school examinations and holidays commenced.

Staff

The staff consists of the Medical Officer-in-Charge (who also carries out the duties of Medical Officer, Tuberculosis Survey, and Preventive Medical Officer, Tuberculosis Campaign), and Additional Medical Officer (who acted as Medical Officer-in-Charge, B. C. G. Campaign and Medical Officer, Tuberculosis Survey, during the absence of the former officer on duty leave) and three teams, each composed of a Doctor, a Nurse and a Clerk. Two of the team Medical Officers were transferred at the end of November, 1949, and the two Medical Officers sent in their place had to be trained during the month of December.

The Scandinavian Demonstration team who arrived in the Island in March, 1949, left in August.

(iii)—VENEREAL DISEASES

V. D. Clinic, General Hospital, Colombo

The following table gives the first and subsequent visits of those who attended the Venereal Disease Clinic, General Hospital, Colombo, since 1940:—

Table LXXVIII—Attendance by Years

Year	*First Visit*	*Subsequent Visits*	*Total*
1940	5,183	20,729	25,912
1941	4,951	26,254	31,205
1942	3,340	24,787	28,127
1943	3,132	30,831	33,963
1944	3,074	32,258	35,332
1945	2,786	31,567	34,353
1946	2,572	37,296	39,868
1947	2,927	45,065	47,992
1948	3,086	51,701	54,787
1949	3,063	62,212	65,275

These figures indicate only a small fraction of those suffering with Venereal Disease. A large number of cases are treated by Private Practitioners, Vederalas, and Quacks, whilst still a large number, especially females, remain untreated either due to ignorance of their condition or to their reluctance to submit themselves for examination.

In 1949, the year under review, an impetus was given to V. D. Control work by the arrival of Dr. George Leiby, Professor of Syphilology of the University of California and Consultant Expert on Venereal Diseases to the World Health Organization. He arrived in Ceylon at the end of October and remained here for about ten days, during which he gave a number of lectures on various aspects of Venereal Disease Control to Medical Officers engaged in Venereal Disease work in Colombo and in the outstations.

He was impressed by the Venereal Disease work done in the Island, and considered the Venereal Disease Control Programme as is at present carried out very satisfactory, the only draw-back being the lack of an adequate number of trained personnel and the frequent transfers of those who had specialized in this sphere of work; thereby breaking the continuity of the work and impairing its efficiency. He was particularly impressed by the follow-up work done in Colombo.

The problem of Venereal Disease Control has been very much simplified today by the recent improved technique in regard to diagnosis and treatment. The Cardiolipin Test was more or less specific for Syphilis and could be performed in the Clinic Laboratory and the result obtained within half an hour. Once the diagnosis was established a complete treatment could be given on the same day by the injection of a single dose of 300,000 units of Procain Penicillin with two per cent. aluminium monostearate.

With the transfer of the Out-Patients Department to Regent Street, the enereal Disease Clinic lost much of the privacy which it formerly enjoyed. though this arrangement did not result in a decline in the attendance, it has used some difficulties with regard to the admission of cases for indoor treatent, in that the patients now have to go a long way across the road for gistration.

During the latter part of the year arrangements were made to carry out the ardiolipin Test in the Clinic Laboratory. The Laboratory Assistant, Ir. Malalnayake, was sent for a fortnight training to the Medical Research nstitute, and on his return on December 1, Cardiolipin Test was carried out in e Clinic Laboratory for the first time. The results although not accurate in l details, chiefly due to lack of some of the essential equipment, compare vourably with those obtained from the Medical Research Institute.

taff

The staff consists of—

(1) One Visiting Surgeon.
(2) Three Medical Officers (full time).
(3) Two Apothecaries.
(4) One Laboratory Assistant.
(5) Four Sanitary Inspectors.
(6) Two Attendants.
(7) Three Labourers.

In July this year, Dr. J. Yogaratnam was transferred to Anuradhapura and vas succeeded by Dr. F. V. Abeynaike. In August, the Medical Officer in harge, Dr. C. H. Wickremasinghe, and Assistant Medical Officer, Dr. C. S. H. P. ayasuriya, left for America and Europe respectively on World Health Organization Scholarships for special training in Venereal Disease work. They were ucceeded by Dr. J. S. Amarasingham and Dr. J. Yogaratnam who was recalled rom Anuradhapura.

Two additional Sanitary Inspectors, Mr. Stanley Fernando and Mr. W. T. Fernando, were appointed during the year to assist in the follow-up work. Prior o this appointment the follow-up work was in charge of two Sanitary Inspectors —one for Colombo North excluding Mutwal area, and one for Colombo South excluding Wellawatte area. The Colombo Municipal area is now divided into Colombo North, Colombo Central, Colombo East, and Colombo South for the purpose of follow-up work, each area being in charge of a Sanitary Inspector.

The number of new cases seeking treatment at the clinic during 1949 was 3,063 as against 3,086 of the previous year, showing a decree of 23. The subsequent visits was 62,212 as against 51,701 of the previous year and 45,065 in 1947. There was thus an increase of 10,511 which indicate a better appreciation of the work done at the clinic and a realisation of the importance of continuing the treatment once begun till a cure is effected.

Of the 3,063 cases, 1,365 were cases of Syphilis and 819 Gonorrhoea, and 879 others, which include Chancroids, cases of Rat Bite, Warts and those still under nvestigation.

Eight cases of Syphilis and 382 cases of Gonorrhoea completed the full course of treatment during the year.

Of the Venereal Diseases, Syphilis is the most serious condition and accounted for 1,365 cases. Of these 970 were Sinhalese, 105 Ceylon Tamils, 107 Indian Tamils, 87 Ceylon Muslims, 16 Indian Muslims, 15 Malays, 36 Malayalees, 19 Burghers, 3 Europeans and 7 nationality unknown. The corresponding figures for Gonorrhoea were 586 Sinhalese, 58 Ceylon Tamils, 52 Indian Tamils, 63 Ceylon Muslims, 11 Indian Muslims, 4 Malays, 9 Malayalees, 16 Burghers, 10 Europeans and 10 nationality unknown. The large number of Sinhalese suffering with Venereal Disease is to be expected considering the greater proportion of Sinhalese in the city of Colombo. The Ceylon Tamils and Indian Tamils totalled 322 and consisted mostly of those who had left their homes in Jaffna or in India for employment in Colombo. The total number of Ceylon Muslims affected with venereal disease is proportionately very high.

Table LXXIX—Distribution by Age Groups

Year	*0-20*	*21-25*	*26-30*	*31-40*	*41 UN*	*Total*
(*a*) *Syphilis*—						
1947	107	340	228	196	95	966
1948	229	354	250	222	114	1,169
1949	211	373	316	309	156	1,365
(*b*) *Gonorrhoea*—						
1947	83	287	205	132	66	773
1948	118	239	188	159	76	780
1949	104	275	222	172	46	819

An analysis of the cases reveals that the largest number of sufferers consists of labourers, petty traders and the unemployed. One alarming feature of recent occurrence is the increase in incidence of Venereal Disease among students.

The age group most affected was that btween 21 to 25 years; the next 26 to 30 years. Thereafter the number decreased with advancing age. Those affected in the lower age groups were the victims of sexual perversity.

The youngest to attend the clinic with Venereal Disease was a boy of 8 years who contracted it from another of the same age and the oldest was a man of 90 years.

Except in the case of Sinhalese where the rate for the married was only half that of those unmarried, the incidence of venereal disease among other nationalities was the same in both the married and the single.

Laboratory Examination

No case of venereal disease is treated without arriving at a positive diagnosis. The clinical findings were in all cases confirmed by microscopical and serological tests.

All ulcers are examined in the clinic laboratory for *Treponema Pallidum*, and also all discharges per urethra for Gonococci.

Blood for Wasserman, Khan and Cardiolipin Tests is sent daily to the Medical Research Institute for examination and report. Since the beginning of December the Cardiolipin Test was carried out at the clinic laboratory on a small scale.

Table LXXX—Laboratory Examination for 1949

Number examined under D. G.	3,615
Number found positive for Treponema Pallidum	568
Number of smears examined for Gonococci	3,291
Number of blood samples sent for M. R. I. for report	12,245
Number of blood samples examined at the Clinic Laboratory	310

Contact Tracing and Follow-up Work

The tracing of contacts and their treatment is a very important measure in any programme of Venereal Disease control. It is a matter of such delicacy and the difficulties encountered are so many that the work in this connection has been confined to the tracing and treatment of only the marital partners of those affected with venereal disease. It was always possible to persuade the patient of his duty to his wife and family and thus induce him to have them submitted for an examination at the Female Venereal Diseases Clinic attached to the Branch Hospital, Colombo.

Table LXXXI—Contact Examination

FAMILY	*1945*	*1946*	*1947*	*1948*	*1949*
Number of contact slips issued. (Husband, wives and children)	566	657	719	858	912
Number attended for examination	213	319	390	433	465
Percentage attended	38%	49%	54%	50%	51%
Number examined	213	319	390	432	462
Number positive	92	152	211	210	249
Percentage positive	43%	48%	54%	49%	54%
EXTRA MARITAL					
Total examined	501	544	767	1,052	1,112
Number positive	63	66	113	148	206
Percentage positive	13%	12%	15%	14%	19%
FOLLOW-UP WORK					
Number registered	—	1,445	1,572	1,752	2,347
Number defaulted	—	1,090	1,279	1,359	1,451
Number dealt with	—	1,090	1,279	1,359	1,429
Number traced	—	875	997	951	1,075
Number attended	—	725	938	914	1,001
Percentage attended	—	83%	94%	96%	93%

Control of Prostitution

Vagrants found in and around the streets and parks of Colombo, with no fixed abode are rounded up by the Police and produced before the Magistrate, who commits them to the Salvation Army Home for Vagrants at Gothatuwa. This home is visited twice a week on Tuesday and Friday by the Medical Officer, V. D. Clinic, who treats all those who show a positive serological reaction for Syphilis. They are released only after the Medical Officer certifies that they have followed the full course of treatment and are cured.

No attempt is made to re-habilitate these unfortunate women, with the result that most of them on being released go back to their former occupation.

Number of visits to Vagrant Home	55
Number examined during the year	69
Number found positive	34

V. D. CLINIC—LADY HAVELOCK HOSPITAL

The daily attendance at this Clinic has increased. The average daily attendance of First and Second Visits in 1948 has been between 50 to 60, and 1949 figures show that this has increased to an average of between 70 to 80 per day.

The following table gives the first, subsequent and total visits:—

Table LXXXII—Attendance by Years

Year	*First Visit*	*Subsequent Visits*	*Total Visits*
1942	2,388	9,278	11,666
1943	2,487	12,903	15,390
1944	2,408	12,661	15,069
1945	2,389	9,944	12,333
1946	1,946	10,126	12,075
1947	1,788	10,254	12,042
1948	2,072	12,608	14,680
1949	1,727	19,464	21,191

Incidence of V. D.

Incidence and prevalence of Syphilis remains almost the same as in previous years. But the incidence of Gonorrhoea has been less. This is due to the combined Penicillin and Sulphanelamide Therapy. The figures show that majority of cases of Syphilis that have attended the Clinic are sero-positive with external lesions and sero-positive latent cases with lesions healed. This is due to the fact that infected persons do not seek treatment early. The public are not aware of the seriousness of venereal diseases.

Patients default very often after two or three injections although they are advised repeatedly to come for regular treatment till they are cured.

TABLE LXXXIII—Gonorrhoea and Syphilis

Year	*Gonorrhoea*	*Syphilis*
1942	612	648
1943	397	939
1944	135	721
1945	167	502
1946	134	538
1947	130	597
1948	132	767
1949	96	871

TABLE LXXXIV—Congenital Syphilis, Males and Females

Year	*Males*	*Females*
1942	36	75
1943	64	178
1944	40	110
1945	16	79
1946	26	89
1947	27	46
1948	31	86
1949	58	86

Rehabilitation

There is no proper organisation for the rehabilitation of prostitutes. Many of these unfortunate women ultimately find their way to the Clinic and are always admitted to the Ward and given treatment, but when partially cured they insist on leaving and are discharged. They have no home. They are friendless and destitute. They have no one to lend them a helping hand with the inevitable result that they return to their former vocation and are re-infected.

Staff

The staff consists of—

(1) One Medical Officer (full time).
(2) Two Nurses (one at the Clinic and one for follow-up work).
(3) Two Attendants.
(4) One Labourer.

Treatment

So far the treatment carried out for Syphilis is Arsenic and Bismuth Therapy. Penicillin is given to pregnant mothers together with the Arsenic and Bismuth Therapy. Cases of Congenital Syphilis which are brought within a few weeks of birth are also treated with Penicillin together with Stovarsol and Hydragyricum-creata. All cases of Gonorrhoea are given Penicillin and Sulphanelamide Therapy.

Laboratory Work

This Clinic suffers from the want of a well equipped laboratory and a trained Laboratory Assistant. At present all the laboratory work is done at the Medical Research Institution.

Smears for Gonococci, bloods for Kahn and Cardiolipin Lecithin Tests and serum taken from all ulcers for Treponema Pallidum are sent to the Medical Research Institute for examination and report. These reports are received from 3 to 4 days after specimens have been sent for examination and results in delay in prompt diagnosis and treatment.

ontact Tracing and Follow-up Work

This work is far from satisfactory. There is only one Nurse for the whole ity of Colombo, and she is not trained for this type of work. There should be t least four trained Public Health Nurses so that the following-up work can be one on the same lines as at the V. D. Clinic, General Hospital.

The contacts treated at this Clinic are mostly the wives and children of the atients who seek treatment at the General Hospital.

During the year 1949, contact slips were issued to 426 patients but only 171 ave attended.

TABLE LXXXV

Year	*Contact Slips issued*	*Contacts treated*	*Defaulters traced*	*Defaulters attended*
1943	521	181	30	17
1944	428	175	406	287
1945	328	116	455	233
1946	304	127	467	260
1947	330	155	255	159
1948	337	127	271	175
1949	426	171	319	210

It will be seen from the above that the number of contacts treated is unsatis-actory in comparison with the number of contact slips issued.

Women patients find it difficult to induce their husbands to report for reatment. This difficulty can be averted if this Clinic works is unison with he male Clinic. The husbands of these patients can be traced by Sanitary nspectors of the male Clinic and the wives of the male patients can be traced y the Nurse attached to the female Clinic.

V. D. CLINICS—OUTSTATIONS

There are 65 clinics in the Island besides the two central clinics for males and emales in Colombo. Most of these are not in session throughout the week. hey are in charge of part-time officers who have other duties to perform in the ospitals to which they are attached. Most of them have had little or no raining in Venereal Disease work.

Three full-time Sanitary Inspectors were appointed to the Galle, Kandy and affna clinics.

raining of Personnel

The training of personnel in the important aspects of V. D. Control is done at he V. D. Clinic, General Hospital, Colombo. Sixteen Medical Officers in charge f the important V. D. Clinics in the Island attended a post-graduate course onducted by Prof. George M. Leiby, V. D. Expert Consultant, South-East sia Regional Office, W. H. O.

The following Medical Officers had short courses of training:—

Dr. S. Velumylum, House Officer, Matara	10 days.
Dr. U. F. Seneviratne, Relieving Officer, Asthma Clinic	10 days.
Dr. V. Rajadurai, D. M. A., Badulla	3 days.

Thirty Sanitary Inspectors stationed in various parts of the Island were also iven a course of instruction on preventive measures in Venereal Disease Control.

Table LXXXVI —Attendance at Outstation Clinics

Station	*1st Visit*	*Sub. Visits*	*Syphilis*	*Gonorrhoea*	*S. S.*
Agrapatana	2	10	2	—	—
Akkaraipattu	—	—	—	—	—
Alutnuwara	—	—	—	—	—
Ambalangoda	63	173	17	—	—
Anamaduwa	6	4	2	—	—
Anuradhapura	262	856	89	84	1
Aranayake	1	1	2	—	—
Avissawella	192	1,159	119	53	—
Balangoda	29	149	13	13	—
Beruwela	42	211	16	6	—
Bogawantalawa	—	—	—	—	—
Badulla	248	2,162	146	66	15
Batticaloa	43	251	23	5	—
Bandarawela	6	10	1	5	—
Chilaw	47	183	41	3	—
Colombo Prisons	82	581	80	2	—
Deniyaya	92	125	42	3	—
Deltota	26	50	38	10	—
Dickoya	38	519	40	7	—
Dimbulla	35	171	29	8	—
Dolosbage	8	6	7	3	—
Eheliyagoda	128	122	106	1	—
Gampaha	51	203	51	2	—
Galle V. D. C.	604	7,692	137	72	11
Gampola	102	179	73	21	—
Hambantota	8	55	7	1	—
Ingiriya	30	30	15	15	—
Ittapana	3	17	3	—	—
Jaffna	1,904	4,064	105	148	15
Kalutara	136	218	136	—	—
Kandy	314	5,274	215	34	—
Karawanella	253	615	165	22	—
Kegalla	59	668	56	22	—
Kuliyapitiya	171	171	38	20	—
Kurunegala	1,267	4,259	131	42	—
Katugastota	6	33	4	1	—
Lady Havelock Hospital	1,724	9,524	869	111	78
Lindulla	13	72	11	5	—
Mahara Prisons	37	102	35	—	—
Madulkelle	13	13	8	4	—
Mannar	11	2	5	7	—
Matara	104	1,128	63	5	—
Matale	158	1,526	72	40	—
Mawattegama	4	8	4	10	—
Maskeliya	4	13	4	—	—
Muttur	15	19	11	1	—
Negombo	210	638	129	58	—
Nawalapitiya	40	260	59	—	—
Nuwara Eliya	45	47	36	4	—
Panadure	37	39	6	2	—
Pimbura	128	148	35	—	—
Point Pedro	6	34	3	3	—
Polgahawela	5	4	—	—	5
Puttalam	11	28	5	—	—
Rakwana	21	59	8	11	1
Ratnapura	66	396	66	18	—
Tissamaharama	22	43	6	16	—
Tangalla	73	101	30	—	—
Warakapola	6	1,007	3	1	—
Watupitiwela	50	168	31	10	—
Total	9,061	45,600	3,448	975	126

There has been an increase of 1,312 first and 2,685 subsequent visits in 1949 over 1948. The number of subsequent visits per head in 1948 was six. It is the same in 1949 as against 11 at the Branch and 20 at the V. D. Clinic, General Hospital, Colombo. The work in the outstations is poor. This is largely due to the lack of trained personnel and a follow-up service. The increase in the first and subsequent visits is due to the improvement in the work at the V. D. Clinics at Jaffna, Kandy and Galle which are manned by trained Medical Officers and Sanitary Inspectors.

It is proposed to organise Venereal Disease work on a Five Year Plan with the object of having 60 V. D. Clinics in the Island at the rate of 12 per year, each in charge of a specially trained V. D. Officer who will devote his whole time to this work. He will also have a specially trained Sanitary Inspector, a Nurse and Laboratory Assistant who will be full time officers to help him.

(*iv*)—*FILARIASIS*

During the year under review, the World Health Organisation was kind enough to send a specialist, Dr. M. O. T. Iyengar, to report on the existing Filariasis Control measures in the Island and to make suggestions for their improvement. Dr. Iyengar was in the Island from June 6 to August 1, 1949. During this period he inspected all the endemic areas, and submitted a report making various suggestions for improving and modifying the existing Filariasis Control measures.

His main recommendations were as follows:—

1. Precise demarcation of endemic areas should be made after local investigations on the incidence of filarial infection, filariasis and presence of active transmission. Endemicity rates should be worked out for each area on the basis of random sampling. Precise distribution of *W. Bancrofti* and *W. Malayi* infections should be worked out, as it is not always that the two infections are respectively Urban and Rural in distribution.

2. Vectors of the two infections should be based on the findings of natural infections, confirmed by (*a*) morphology of the filaria larvae; (*b*) food preference of the vector; (*c*) susceptibility to experimental infections and (*d*) association with endemic areas.

3. Control measures in areas with endemic malayi infection should be directed against the primary transmitter, *Mansonoides*, and on the basis that Pistia forms the main host for the larvae and pupae of *Mansonoides*. A scheme for Pistia clearance in all such endemic areas should be implemented at once.

4. In Hettipola, Toppur and Walasmulla areas, all water collections should immediately be cleared of Pistia. Many of the villages in these areas are already being treated with Residual D. D. T. Spray under the Malaria Control Programme. This work should be continued, and villages with endemic filariasis not at present being sprayed with D. D. T. Residual Spray which would be effective against *Mansonoides* should be determined by field as well as laboratory tests. It is suggested that cattle-sheds, lumber rooms and ceilings of dwelling rooms should be sprayed with D. D. T.

5. In Weragoda and Induruwa areas, Pistia clearance work should be started immediately. No D. D. T. spraying of houses is to be done. Observations should be made on the effect of this measure on the incidence of *Mansonoides*, infection rates in the mosquito, and whether *Mansonoides* can breed profusely in the absence of Pistia. Vectors of bancrofti infections in these two areas should be determined.

6. Pistia clearance work should be carried out in all areas under the control of the Government, such as Irrigation, Agriculture and other departments. Irrigation channels should be provided with barriers to prevent the scattering of Pistia plants through such channels.

7. The clearance of Pistia should be carried out in all endemic areas, and subsequently extended to areas which are at present non-endemic.

8. The policy recommended for urban areas with bancrofti infections is the extension of efficient systems of sewerage for all such areas. In areas, at present served by underground sewerage, the existing gullies should be so modified as to prevent culex breeding. A modified plan for gullies is suggested. Catch-pits of service latrines should be abolished, or replaced by alternative designs provided in the report.

9. The existing mosquito control schemes in Dehiwala, Kotte, Matara and Colombo should be intensified and the work organised on a systematised basis. D. D. T. wettable powder is recommended as an efficient and economical larvicide for the control of Culex breeding.

10. Schemes for mosquito control in Galle Municipality and Kandy Municipality have been drawn up.

11. All Municipalities should be requested to take up mosquito control work, and the Government should provide any essential help that may be needed, such as technical advice, and procurement of insecticides, larvicides, appliances, &c.

12. The outlook of the Filariasis Control Section should be entirely preventive. The Superintendent, Filariasis Control, should be relieved of administrative work and work in connection with clinics, to enable him to devote time to field surveys, inspection and direction of control schemes.

13. Division of Entomology should collaborate with the Filariasis Section at every stage, in the surveys and in the formulation and conduct of control schemes. This Division should undertake intensive investigations of vectors of filarial infections, their breeding habits, efficacy and dosages of insecticides and larvicides.

14. Policy regarding Filariasis treatment clinics: Treatment of cases of Filariasis should be done by the Medical Department. It is suggested that no new clinics should be started and that the existing clinics at Matara and Hettipola should be transferred to the local hospitals. As regards the Filariasis Clinic at Dehiwala, this clinic should be continued as a Research Unit for testing the efficacy of Hetrazan, on a temporary basis till December, 1950. The Superintendent, Filariasis Control, should be relieved of this clinic so as to enable him to devote more time to control schemes and investigations. As this Clinic will function as a Research Unit, it is suggested that it may be conducted at Dehiwala by the Parasitologist of the Medical Research Institutte, who would be in a position to maintain accurate records of the effect of this drug on the parasite.

15. The World Health Organization should inquire of the progress of work, and the position reviewed after six months.

16. It is recommended that the staff of the Filariasis Control Section and the Entomological Staff dealing with investigations on Filariasis should be given an intensive course of training in the technical aspects of field and laboratory investigations and of control measures. It would be best if the World Health Organization could depute an expert to Ceylon for a period of two months to give this course of training.

His recommendations were accepted by the Department and they were put into effect, as far as practicable, with due consideration to the funds and trained personnel available.

2. STAFF

The staff consisted of the Superintendent, Filariasis Campaigns, one Clerk, 12 Sanitary Inspectors, three Laboratory Assistants, one Nurse, one Male Attendant and one Field Attendant. The Nurse and the Field Attendant are temporary; others are from the permanent cadre of the Medical Department. The increased staff was appointed only during the latter part of the year. As the new officers were not conversant with the special type of work, they had to be trained, to enable them to carry out the work in various endemic areas.

3. WORK DONE DURING THE YEAR

Filariasis work, in all is aspects, investigation, treatment and control, was developed further on more intensive lines and extended to all the endemic areas.

Investigation

The areas investigated during the year were:—

Colombo Municipality.
Dehiwala.
Kotte.
Kolonnawa.
Peliyagoda.
Moratuwa.
Beruwala.
Induruwa.
Weragoda.
Galle.
Weligama.
Matara.
Walasmulla.
Weeraketiya.
Hettipola.
Bingiriya.
Toppur.

The work consisted mainly of detection of clinical cases, location of infective foci by night blood surveys and the determination of insect vectors and their breeding places.

Clinical Cases

The following were the clinical cases detected during the year:—

Colombo Municipality	305
Dehiwala	474
Kotte	95
Kolonnawa	32
Peliyagoda	109
Moratuwa	30
Beruwala	62
Induruwa	115
Weragoda	38
Galle	24
Weligama	31
Matara	178
Walasmulla	105
Weeraketiya	50
Hettipola	187
Bingiriya	25
Toppur	60
Total detected during the year	1,920

The main clinical lesions detected were as follows:—

Elephantiasis of legs	1,028
Lymphangitis of legs	817
Lymphangitis of arms	4
Adenitis	12
Hydrocele	41
Orchitis	2
Epididymitis	14
Affections of the mammary glands	1
Chyluria	1
Total	1,920

The commonest lesion was the affection of lower extremities; left leg was the limb affected more frequently.

Night Blood Surveys

A total of 19,470 blood films were taken in the night after 8.30 p.m. in 99 localities. Of this total 12,700 films were from known bancroftian areas; of which 1,023 (8.1 per cent.) were found positive for *microfilaria bancrofti*. The remaining 6,770 films were taken from known malayi areas, of which 398 (5.9 per cent.) were found positive for *microfilaria malayi*.

In Colombo, Dehiwala, Kotte and Peliyagoda only the bancroftian type was found; in Matara both the bancroftian and the malayi types were found; in the rural areas of Weeraketiya, Walasmulla, Toppur and Hettipola only malayi type was found.

In addition to the night blood surveys done in different localities on a pre-arranged programme after giving due publicity, there are now special fixed days on which anybody could get his blood examined—at Dehiwala Clinic on Thursdays between 8 p.m. and 10 p.m. and at Matara between 8 p.m. and 10 p.m. on Tuesdays. These centres are very popular and the average daily attendance is about 60 at Dehiwala and 35 at Matara. Most of these people who come on fixed days are those who are anxious to get all the inmates of their houses examined for microfilariae and those who come for regular examination after Hetrazan treatment.

There is a considerable amount of difficulty encountered in obtaining blood films in the night. Even when the places where blood films are to be taken are arranged beforehand with the usual publicity, &c., it is invariably found that unless a special officer is close at hand from the evening, it is not possible either to collect people to one centre or carry out house-to-house collection of blood films, as the work has to be done only after 8 p.m. People nowadays are very reluctant to leave their homes in the night or to keep their houses open after 8 p.m.

In rainy weather, even with a great amount of publicity and propaganda, the blood collection is usually very poor, as it is very difficult to carry slide boxes, lamps, records, &c., from house to house.

Night blood surveys were carried out in the following localities:—

1949

Place	*No. of Blood films taken*	*No. positive for Microfilaria*
Lunawa, Charles Place	68	3
Rawatawatte, Moratuwa	87	2
Kattubedde, Moratuwa	29	1
Moratuwella, Moratuwa	37	1
R. C. School, Angulana	68	—
B. T. S. School, Nikape	81	2
Methodist School, Pepiliyana	87	3
Methodist School, Karagampitiya	53	—
Massela School, Beruwela	20	1
Maradana	80	11
Mattakkuliya	30	3
Peoples' Park	41	4
Beach Road, Mount Lavinia	42	—
Siri Punnyakami School, Mount Lavinia	30	4
Ebenezer Place, Dehiwala	53	6
Police Station, Dehiwala	37	3
Kandewela Estate	105	5
Mount Lavinia	69	3
Government Mixed School, Peliyagoda	68	9
Ratmalana Air Port	376	26
Police Station, Ratmalana	64	—
Dehiwala	588	33
Jayasumanarama and Kovil Roads, Ratmalana	50	4
Ratmalana Railway Housing Scheme	769	65
Ratmalana Irrigation Scheme	71	5
Maharagama Basic Training School	144	4
Bambalapitiya Convent	36	1
Borella	108	—
Peliyagoda Pattiya, Kelaniya	467	49
Police Station, Mt. Lavinia	25	1
Sea Beach Road, Ratmalana	14	—

Place	*No. of Blood films taken*	*No. positive for Microfilaria*
Samudrasanna Road, Ratmalana	59	4
Jayasumanarama Road, Ratmalana	113	9
Police Station, Mirihana	29	1
Rajamawatte Road, Ratmalana	211	23
Colombo Harbour Bungalows	475	88
General Hospital, Colombo	4	4
Maldivian Ambassador's Residence, Bambalapitiya	78	10
Gangagoda, Peliyagoda, Kelaniya	65	10
Old Quarry Road, Ratmalana	38	2
Dehiwala Clinic	3,254	238
Kamburugamuwa, Weligama	135	6
Mirissa, Weligama	158	3
Midigama, Weligama	80	2
Tallrambe, Weligama	72	1
Garanduwa, Weligama	44	1
Kottawila, Weligama	102	—
Jamburegoda, Weligama	70	—
Pathegama, Weligama	66	2
Galbokka, Weligama	72	9
Denipitiya, Weligama	46	—
Weligama Urban Council area	610	31
Beliatte	2	—
Ja-ela	181	14
Bingiriya	151	2
Kamburupitiya	71	3
Panadura	1	—
Kurunegala	1	1
Wariyapola	344	24
Ittademaliya, Walasmulla	245	28
Bowala, Walasmulla	322	41
Walasmulla	744	27
Beruwala	350	42
Kuliyapitiya	1	—
Moratuwa	49	2
Nattandiya	194	—
Toppur	766	60
Ambagahawela	48	18
Pallattara	150	3
Hambantota	154	19
Weragoda	334	7
Induruwa	267	10
Hettipola	844	5
Nawala Road, Kotte	299	12
Cotta Road, Kotte	196	9
Kolonnawa Road, Kotte	29	1
Namaneliya, Kirama	429	89
Weeraketiya	186	4
Mulgirigala, Weeraketiya	248	2
Wellawatte	11	—
Police Station, Kalutara	70	3
Civil Hospital,, Kalutara	3	—
Galle	94	3
Ambalangoda	29	1
Kotapola, Matara	2	—
Walgama Girls' School, Matara	48	—
Kadaweediya Tamil School, Matara	33	2
Police Station, Matara	67	2
Medawatta Night School	67	—
Sariputra School, Matara	59	8
Tudawa School, Matara	48	—
Weragantota, Matara	66	6
Uyanwatta, Matara	216	18
Polhena, Matara	144	14
Civil Hospital, Matara	17	—
Kotuvegoda, Matara	216	21
Kadaweediya, Matara	173	25
Weliweriya, Matara	102	5
Matara Clinic	1,821	197
Total	19,470	1,421
Bancroftian areas	12,700	1,023
Malayi areas	6,770	398

The transport of officers taking blood films to and from their residences to places of work in the night constitutes a difficult problem. Officers have to go to the centres of blood survey in the evening and when they finish their work at about 11 p.m. have to return alone in the night to their houses on their push bicycle. There are no public conveyances such as buses at that time of the night. Due to these difficulties, specially in the rural areas, only 6,770 blood films were taken, though far more were required to give correct information regarding infection and intensity of the disease. Most of the infected villages of the rural type are still very in-accessible, only foot paths are available for access. Further, houses are situated inside the villages and access to them is through paddy fields, over fences and stiles, through elas and streams, &c.

Propaganda Work

The importance of propaganda work in relation to Filariasis control measures has been recognised especially to win the co-operation of the public for night blood surveys, detection of early clinical cases and getting them to submit to regular blood surveys and also regarding anti-mosquito measures. For this purpose lantern lectures are regularly given in the endemic areas. During the year a new set of lantern slides depicting all factors connected with Filariasis has been prepared and one set each had been sent to the Medical Officers of Health in the endemic areas. During the year, 55 lantern lectures had been delivered to an estimated attendance of 11,162.

Clinics

The value of a clinic for maintaining the contact of filariasis patients with the Health authorities is now fully recognised. The purpose of a clinic is mainly educative; patients and others are offered every facility to learn all problems connected with the disease; to get the clinical cases correctly diagnosed and to get them to practise in their homes the preventive measures against mosquitoes. The clinics have been very helpful in the detection of a large number of cases amongst familial contacts and neighbours. It is very gratifying to note that a large number of patients carry out personal mosquito prophylaxis, such as the use of mosquito nets and attention to breeding places in their own houses.

Clinics are now functioning at Dehiwala, Matara, Beruwala, Weragoda, Induruwa, Walasmulla, Hettipola, Toppur and Weligama. They are all weekly clinics, except the one at Dehiwala, which is held twice a week—Thursdays for female patients and Fridays for male patients. Dehiwala Clinic was conducted by the Superintendent, Filariasis Campaigns, and since September 1949, the Second Medical Officer of Health, Dehiwala was appointed to conduct the clinic. In other places, clinics are conducted by the respective Medical Officers of Health. Except the clinics at Dehiwala, Matara, Beruwala and Hettipola, other clinics were opened only during the latter part of the year. For clinical cases the following drugs were used:—

" Anthiomaline "—Lithium Antimony Thiomalate.
" Neostam "—Stibamine Glucoside.
For Micro—filaria cases Hetrazan was used.

The following are the figures for the three main clinics:—

	Dehiwala	*Matara*	*Hettipola*	*Total*
Number of clinics held during the year	91	50	21	162
Total number treated	2,356	781	119	3,256
Total number of treatments given	9,512	1,436	712	11,660

The total number of clinics held during 1948 was 74 as against 162 during the year under review; total number of patients treated was 654 as against 3,256; the total number of treatments given were 4,982 as against 11,660.

Hetrazan, the new filaricidal drug has been used as a Public Health drug to free the carriers of microfilaria. During the year, the following micro-filaria cases have been treated:

	Dehiwala Clinic	*Matara Clinic*	*Hettipola Clinic*	*Beruwala Clinic*	*Total*
Number of microfilaria cases treated with Hetrazan during the year ..	532 ..	225 ..	5 ..	17 ..	779
Number examined after Hetrazan treatment (by night blood test) ..	420 ..	61 ..	5 ..	10 ..	496
Number found negative for microfilaria after first course of treatment	361 ..	44 ..	3 ..	5 ..	413

Those treated with Hetrazan are being re-examined regularly every two months and records maintained.

Mosquito Control Measures

The measures for the control of insect vectors were in operation in all the endemic areas. In the case of bancroftian areas, of Dehiwala, Kotte and Matara, control measures adopted were chiefly against *Culex fatigans*, which breed mainly in catch pits and other polluted collections of water near houses. The method adopted was the larvicidal treatment of the breeding places, once a week by a special gang of labourers. The larvicide used up to July 1949 was Gammexane D 025 for catch pits and Diesel Oil in D. D. T. for drains and other extensive breedings places. After July, Wettable D. D. T. 1 per cent was used in the following quantities:—

> For catch pits—1 oz. per cubic foot; and for other larger water collections—2 ozs. per square yard of surface areas.

Special labour gangs were employed in all the three areas mentioned above under the direct supervision of the Medical Officer of Health of the area. The staff employed was as follows:—

	Dehiwala	*Kotte*	*Matara*
Sanitary Inspectors	2 ..	2 ..	2
Overseers	5 ..	4 ..	4
Labourers	40 ..	24 ..	24

Each of the three Urban Council areas of Dehiwala, Kotte and Matara has been divided into four sections; each section is again sub-divided into five blocks. Altogether, each Urban Council area is divided into twenty blocks. Each section is in charge of an overseer and a gang of labourers, who visit one block each day for larvicidal work. On Saturdays left-over areas and large collections of water are attended to.

Maps of each block have been prepared giving details of all catch pits and other breeding places with the assessment numbers of premises to enable easy check-up. Before and after treatment places are examined for larvae by regular dipping and results are recorded on special forms.

The following anti-mosquito measures were carried out during the year:—

	Dehiwala	*Kotte*	*Matara*	*Total*
Number of catch pits treated weekly with larvicide	3,249 ..	1,558 ..	3,040 ..	7,847
No. of premises cleared of empty tins, shells, &c.	10,981 ..	73,326 ..	30,146 ..	114,453
Drains in disrepair dealt with larvicide ..	19,544 ..	13,902 ..	25,542 ..	58,988
No. of obstruction in drains dealt with ..	— ..	2,603 ..	76 ..	2,679
Water collections at the end of drains dealt with	8,451 ..	1,963 ..	207 ..	10,621
Length in feet of new earth drains cut to prevent stagnation of water	12,237 ..	249,734 ..	— ..	261,991
No. of excavation, borrow pits and abandoned wells filled up and drained ..	1 392 ..	— ..	8 913 ..	10,305
No. of quarry pits treated with larvicide ..	158 ..	31 ..	5 793 ..	5,982

In the case of Malayi areas, clearance of Pistia plants from tanks and other water collections is the main line of attack to lessen the incidence of mansonia mosquitoes. Special labour gangs are in operation at Walasmulla, Weeraketiya, Hettipola, Bingiriya and Toppur, under the immediate supervision of the respective Medical Officers of Health of the areas. Pistia plants are removed manually and by the help of wooden rakes on an approved regular programme. After the first clearance places are visited regularly to check up re-appearance of. Pistia plants. The staff employed were as follows:—

	Walasmulla	*Weeraketiya*	*Hettipola*	*Bingiriya*	*Toppu*
Sanitary Inspectors	1	—	1	—	—
Overseers	—	—	2	1	—
Labourers	12	8	16	5	12

The following Pistia clearance work was carried out during the year:—

	Walasmulla	*Weeraketiya*	*Hettipola*	*Bingiriya*	*Toppu*	*Total*
Number of tanks with Pistia	54	5	49	20	2	130
No. of other localities with Pistia	—	—	20	4	20	44
No. of tanks cleared of Pistia	19	1	37	10	—	67
No of other localities cleared of Pistia	—	1	18	1	17	37

Summary

Total recorded cases for the whole Island:—

	Clinical Cases	*Micro-filaria Cases*
Detected during 1937 Survey	2,273	1,777
Detected during 1948 Survey	1,027	400
Detected during 1949 Survey	1,920	1,421
Total	5,220	3,598

Cases freed of microfilaria with Hettazan treatment during 1949 .. 413

Filariasis work in all its aspects presents many difficulties. Being one of the socio-economic diseases people are very reluctant to seek Medical aid unless in the latter stages when very little could be done by medical science. The disease is still localised in the Island and if the work is carried out according to modern methods there would be no difficulty in eradicating the disease. The Filariasis Control Scheme that was in operation up to July 1949 consisted mainly of measures to minimise the effects of a certain factor known as " Repetition of Infection " which has been universally considered as essential to the spread of Filarial infection both in the individual as well as in the locality. Further, when it comes to Bancroftian filariasis in urban areas, the difficulty of controlling the breeding of Culex fatigans, solely, by a Governmental organization has been fully recognised. As such, the scheme depended to a very great extent on propaganda and publicity by establishing special clinics in the endemic areas, with a view to educating the public in all the aspects of filariasis control work and obtaining their co-operation to carry out mosquito control measures in their own premises and also getting the contacts freed of micro-filariae by the use of modern drugs, to prevent the mosquitoes getting infected and spreading the disease to others. The scheme had been planned according to modern concepts of medical science by the harmonious working of the three main methods of attack against disease, viz., curative procedures, public health measures and individual health measures.

From July 1st, after the arrival of the W. H. O. Specialist, Dr. M. O. T. Iyengar, the clinical side was not developed. In the case of bancroftian areas the Specialist recommended that reliance should be placed chiefiy on larvicidal treatment of main breeding places with 1 per cent. Wettable D. D. T. The results obtained by this larvicide as recommended by the W. H. O. Specialist was far below the expectations and poorer than the results obtained by Gammexane D 025. Comparative costs were also high if D. D. T. used in a strength more than 1 per cent. The preparation of D. D. T. used from July to September 1949 was Genitox S 50—50 per cent. water wettable D. D. T. After that date 70 per cent. wettable D. D. T. manufactured by the same firm was used. The results obtained from 70 per cent. water wettable were poorer than that obtained from 50 per cent. water wettable D. D. T. Experiments are being carried out with other preparations of D. D. T. to find out a suitable larvicide which can be applied to all breeding places with efficiency.

(v) LEPROSY

This report deals with all the anti-leprosy work during the year 1949 in the two Leprosy Hospitals at Hendala and Mantivu and in the 15 outdoor Leprosy Clinics in the endemic areas and in the field organization controlling and observing the non-infective cases and contacts.

History

There are no reports of the existence of leprosy in Ceylon before the Dutch period. The first authentic record of the existence of the disease in Ceylon is in a report made by a Dutch Physician to the Dutch Council in Colombo that there were many cases of leprosy in the hospital and that the disease was spreading in an alarming manner.

As a result of this report a house to house inspection was carried out and steps were taken in 1692 by the Dutch Governor to build an asylum and in 1708 an asylum was built at Hendala outside the City of Colombo for the segregation of cases of leprosy. It was during this year that the first attempt at segregation was made.

In 1796, the Island passed from the administration of the Dutch to the British and in 1868 the Civil Medical Department took over the working of the Hendala Hospital from the Military Administration.

In 1901, the Lepers' Ordinance No. 4 was passed providing for the compulsory segregation of all cases of leprosy.

The seriousness and importance of leprosy as a socio-economic problem was first realized in 1930 when the then Director of Medical and Sanitary Services suggested the idea of a leprosy suurvey as an essential step in tackling the problem. Two Medical Officers were sent to India for training in leprosy and on their return they formulated a scheme for the control of leprosy. The first item in the scheme was a preliminary survey of known cases of leprosy followed by a survey proper.

Up to this time segregation was the only controlling measure and in 1932 the Island saw the beginning of the control of leprosy in modern lines.

Effective methods of cotrol were adopted in 1932 and since then progress of leprosy work has been steadily maintained and there is a decline in the curve of yearly detections although it is too early to compare figures and come to any definite conclusions.

Special Features

1. The Annual Sports Meet and Treat was held on January 21, 1949, presided over by the Bishop of Colombo who distributed the prizes. He also visited the Leprosy Hospital, Mantivu in August. The Bishop of Trincomalee paid his pastoral visit to Mantivu during the year.

2. Dr. Anderson of the Rockefeller Foundation visited Hendala on February 8, 1949.

3. Wesak Treat to patients by the Ceylon Buddhist Congress took place on May 15, 1949.

4. The Right Hon. D. S. Senanayake presided at the Poson celebrations at Hendala.

5. Dr. Cumpston, the Medical Adviser, visited the Maradana Central Clinic and Office.

6. About 300 inmates of Hendala went on hunger strike on October 1, 1949, demanding the drug, Promin, and so on, and there was also a strike at Mantivu due to communal differences.

7. The Hon. Mr. A. E. Goonesinghe visited Hendala on October 3, 1949, with the M.P. for the area, Mudaliyar D. P. Jayasuriya, and the Buddhist Priest responsible for the strike. It was only at the request of the Priest that the inmates called off the strike.

8. The Hon. Minister of Health addressed the inmates on October 5, 1949, and promised to look into their demands. He later appointed his Permanent Secretary to inquire into the demands.

9. Dr. Leiby, the WHO Expert on Venereal Diseases visited Hendala with a team of officers and took blood for Wassermann and Kahn and Cardiolipin tests from the inmates on November 8, 1949.

Staff Changes

1. Dr. A. C. Fernando, Medical Officer in Charge, Central Clinic, Maradana, was transferred to Hendala and Dr. S. C. Manikawasagar of Mantivu took his place.

2. Dr. N. Sabaratnam was appointed Medical Officer, Mantivu.

3. The vacancy caused by the death of the Rev. Mother Superior Marie Divine Cuore was filled by Rev. Mother Marie D'Igney, M.D.

New Buildings

Progress is being made in the building of an agricultural colony at Urugaha with twelve cottages of the Ratmalana type.

New Treatment

A definite advance was made in the treatment of Leprosy when a new Chemotherapeutic drug, Sulphetrone (Burrows and Welcome) with bacteriostatic properties against *Lepra Bacilus* was largely used in both the institutions and at the Central Clinic, Maradana, during the year. This new drug which is being used in all modern Leoprosaria at present is the least toxic and the most effective of the Sulphone group of drugs of which the others are Promin, Diasone and Promizole.

Sulphetrone

The patients improved with this new treatment. There was decided clinical impromevnt in advanced lepromatous cases. The infiltrations subsided, ulcers healed rapidly, nose and throat lesions cleared up and the patients felt a general sense of well being.

Orthopaedics

Children with deformities like talipes, and so on, were referred to the Orthopaedic Clinic, General Hospital, Colombo, for necessary treatment with the other patients requiring artificial limbs.

Physiotherapy

Neural cases with contractures were referred to the Physiotherapist for electrical treatment and massage.

Ocular Lesions

Leprotic nodules in the eye were successfully treated with injections of sulphetrone into the nodules. Few eye lesions in lepromatous cases cleared up with intravenous injections of sulphetrone.

TABLE LXXXVII

Personnel

Medical Superintendent Leprosy Hospitals' and Campaign

Institution	*Medical Officer*	*Apothecary*	*Stewards*	*Lab. Assistants*	*Clerks*	*R.N.S. (Sisters)*	*Supervisor, Guards*	*Overseer*	*Seamstress*	*Guards*	*Boilerman*	*Van Driver*	*Male Attendants*	*Female Attendants*	*Male Ward Labourers*	*Female Ward Labourers*	*Latrine Labourers*	*Gate Keeper*	*Cooks*	*Kitchen Labourers*	*Peons*	*Office Labourer*	*Orderlies*	*Convent Cooks*	*Convent Ayahs*	*Boatmen*	*Engine Driver*	*Garden Labourers*	*Convent Labourer*
1. L. H. Hendala	3	2	2	1	1	14	1	2	2	6	2	1	57	13	16	3	17	1	6	13	1	1	—	2	1	—	—	—	—
2. L. H. Mantivu	1	2	2	—	—	9	—	2	1	6	—	—	17	5	—	—	9	—	6	3	—	1	1	2	1	5	1	14	1
3. Central Clinic, Maradana ..	1	5	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—
4. Proposed Urugaha Colony ..	1	1	1	—	—	—	—	1	—	—	—	—	4	—	2	—	2	—	1	2	1	—	1	—	—	—	—	—	—
Total ..	6	10	5	1	2	23	1	5	3	12	2	1	78	18	18	3	28	1	13	18	2	2	3	4	2	5	1	14	

With the progress of control and special treatment it would become necessary for an increase in the staff of the medical officers and apothecaries.
Owing to the difficulty oj inducing officers to take to leprosy work it would also be necessary to attend to the pay and prospects of leprosy workers.
Mantivu Hospital requires an additional medical officer and a clerk.

Work Done

The Leprosy Control Scheme in Ceylon can be divided into two Sections:—

(1) Institutional Control:

(a) Leprosy Hospital, Hendala—25 acres—608 beds.
(b) Leprosy Hospital, Mantivu—100 acres—225 beds.
(c) Agricultural Colony at Urugaha.—This is in course of construction with 12 cottages of the Ratmalana type and will be ready for occupation in 1950.

(2) Field Control:

This is the more important section. The Central Clinic at Maradana controls the activities of the field organization with its 15 subsidiary clinics besides maintaining records and statistics and forming a co-ordinating centre between the institutions and field.

Hospitals

On the whole, the general health of the patients was very good. There were 58 deaths in both hospitals as compared with 61 last year.

(1) Treatment:

In both institutions treatment was carried out on the following lines:—

(a) *General Treatment.*—This consisted of treatment of the commoner conditions like anky, anaemia, malnutrition, debility and other intercurrent illnesses.

(b) *Special Treatment* :

(i) Hydnocarpus oil given as an injunction and by injection.
(ii) Combined treatment with sulphone and hydnocarpus oil.
(iii) Sulphetrone injections intramuscular and subcutaneously.

(c) *Treatment of Complications and Sequalae.*—The infirmaries were always full and patients deserving special attention were admitted.

(d) *Intercurrent Diseases.*—There were mostly Lepra Reaction, Ulcers, Nephritis, Influenza and Operated cases.

(i) *Lepra Reaction.*—This is the commonest intercurrent illness met with in leprosy and responded well to injections of Adrenaline, Calcium Gluconate, Anthiomaline and Grape Sugar. All these cases were put on Calcium Chloride mixture.

(iii) *Trophic Ulcers.*—Chronic ulcers with little discharge surrounded by thick epithelium were scraped. The necroted bone was removed in cases of perforating ulcers with necrosis of bone. In chronic or advanced cases of osteodyelitis amputation or metatarsectomy had to be done.

(iii) *Eye, Ear, Nose and Throat Affections.*—These cases are treated in the special clinics in the afternoon. The Eye Surgeon visits each institution once a month. Spectacles are supplied to deserving cases.

(iv) *Surgical Treatment.*—There were 17 major operations and 61 minor operations done during the year:—

Major—	Amputations	7
	Metatarsectomy	9
	Nerve Sheaths	1
Minor—	Minor operations	23
	Dental Extractions	37
	Cauterisation of prolapsed iris	1

Occupational Therapy and Other Activities

1. Gardening, paddy and vegetable cultivation.
2. Animal husbandry.
3. Weaving.
4. Tinkering and carpentry.
5. Patient barbers and labourers.

6. Scouting.
7. Schools.
8. Dramas.
9. Sports.
10. Library.
11. Boutiques.
12. Religious activities.

Statistics

	Hendala	*Mantivu*	*Total*
Total scheduled at the end of 1948	684	381	1,065
Admissions during the year	63	54	117
Temporary admissions	13	—	13
*Readmissions	29	21	50
Transfers from Hendala to Mantivu	—	7	7
Transfers from Mantivu to Hendala	17	—	17
Repatriations	3	—	3
Deaths	49	9	58
Discharges	15	10	25
Remaining at the end of 1949	703	406	1,109

* Included in the number of cases scheduled at the end of 1948.

Statement of the 1,109 Cases

Age	Under 14	11
	Over 14	1,098
Sex	Males	910
	Females	199
Race	Sinhalese	857
	Ceylon Tamils	85
	Ceylon Moors	40
	Indians	115
	Burghers	11
	Others	1
Type	Neural	264
	Lepromatous	845

Distribution of the 1,109 Cases by Provinces

Province	*Hendala*				*Mantivu*				*Total*
	Ceylonese		*Indians*		*Ceylonese*		*Indians*		
	M	*F*	*M*	*F*	*M*	*F*	*M*	*F*	
Western	290	81	27	2	86	5	6	1	498
Southern	139	33	3	—	22	2	3	1	203
Eastern	1	—	—	—	49	19	2	—	71
Central	52	9	17	4	11	—	9	4	106
Sabaragamuwa	43	16	11	2	2	—	8	1	83
Uva	55	—	6	1	3	2	5	1	73
North Western	20	5	—	—	6	1	—	—	32
North Central	1	—	1	—	6	3	—	—	11
Northern	4	—	—	—	22	6	—	—	32
Total	605	144	65	9	207	38	33	8	1,109

Laboratory Work

During the year, 582 patients at Hendala, 50 at Mantivu and 38 at Maradana Clinic were examined for M'leprae as against 516, 111 and 55 respectively last year.

Statement of Work done in 1949

Institution	*No. of Slides Examined*	*Positive*	*Negative*
Hendala Hospital	582	398	184
Mantivu Hospital	50	31	19
Maradana Clinic	38	22	16
	670	451	219

Other specimens examined:—

Blood Counts	197
Blood for Hb %	396
Sputum for T.B.	38
Urine	663
Faeces	132

Clinics—

During the year under review 15 clinics have been functioning satisfactorily. These clinics are situated in the highly endemic areas of the Island and are conducted by the Leprosy Campaign apothecaries and have been popular and afford much relief to patients. The Central Clinic, Maradana, deals with a large number of cases from all parts of Ceylon and forms a diagnostic centre for leprosy and other skin disease.

Statement of Work done in the Clinics

Clinics	*No. of Clinics held*	*No. of cases Schld.*	*No. for Observation*	*No. for treatment*	*Number Attended Average*	*Total treatments*
Colombo	45	657	454	203	120	5,410
Kesbewa	20	30	16	14	14	282
Kadawata	43	80	60	20	6	261
Moratuwa	44	98	76	22	10	443
Panadura	22	33	22	11	5	112
Kalutara	43	44	31	13	6	262
Galle	44	126	103	23	15	666
Weligama	21	101	76	25	20	421
Hikkaduwa	42	96	72	24	15	632
Matara	44	41	32	9	4	179
Kalmunai	22	29	12	17	13	278
Nindoor	11	6	3	3	3	34
Padirippu	11	7	3	4	2	20
Kattankudi	11	7	1	6	3	31
Mankadu	12	5	3	2	2	23
Total	435	1,360	964	396	238	9,054

Field Organisation—

The field work has been carried out under the supervision of the Medical Superintendent, Leprosy Control by the Medical Officer in Charge of the Central Leprosy Clinic, Maradana, assisted by six Apothecaries. The work of the six Aothecaries who work in the clinics and field, are distributed as follows:—

(1) Apothecary at Kalmunai—in charge of Eastern, Northern and North-Central Provinces.
(2) Apothecary at Galle—in charge of Southern, and Uva Provinces.
(3) Apothecary at Moratuwa—in charge of Kalutara District and urban area of Salpiti Korale.
(4) Apothecary at Colombo No. 1—in charge of Colombo Mudaliyar's Division, rural area of Salpiti Korale and Sabaragamuwa Province.
(5) Apothecary at Colombo No. 2—in charge of Colombo Municipality, area of Medical Officer of Health, Padukka and Central Province.
(6) Apothecary at Hendala—in charge of Northern half of the Colombo District, North-Western Province and also the additional Apothecary at Leprosy Hospital, Hendala.

Statistics—

240 new cases have been detected during the year as against 244 in 1948 and 163 in 1947. Most of these cases are from localities known to have high incidence of leprosy. Cases have been detected not only by the officers of the Leprosy Campaign but also by other Medical Officers of the Medical Department and private Medical Practitioners. A few cases reported themselves at the Central Clinic, Maradana voluntarily, perhaps the result of propaganda and education. The largest number of cases detected have always been from the Western and Southern Provinces.

Distribution of the New Cases by Provinces

Province	*1947*	*1948*	*1949*
Western	104	133	128
Southern	23	33	39
Eastern	7	20	8
Central	7	15	17
Sabaragamuwa	7	15	19
Uva	9	11	12
North Western	3	9	6
North Central	1	1	2
Northern	2	7	9
Total	163	244	240

Analysis of the New Cases

Age	Under 14	20
	Over 14	220
Sex	Males	183
	Females	57
Race	Sinhalese	190
	Ceylon Tamils	14
	Ceylon Moors	9
	Malays	—
	Burghers	2
	Indians	25
Type	Lepromatous	105
	Neural	135

Disposal of New Cases

Segregated	103
Paroled	120
For segregation	17

Deaths.—During the year 68 deaths were registered in the hospitals as well as outside—Hendala 49, Mantivu 9, and Outside 10.

Incidence of Leprosy in Ceylon

During the year under review there were 117 new admissions, 13 temporary admissions and 50 re-admissions to both institutions—Hendala and Mantivu as against 115 new admissions and 18 re-admissions in 1948 and 84 new admissions and 32 re-admissions in 1947. Only 3 Indians were repatriated from the Leprosy Hospitals and 68 cases died, out of which 58 in the hospitals and 10 outside as against 65 cases in 1948 and 50 in 1947.

At the end of 1949 there were 1,109 cases scheduled to both hospitals, 1,480 on parole and 195 discharged on parole making a total of 2,784 cases living in the Island as against 3,150 in 1948 and 2,963 in 1947.

The leprosy control in the Island has been in operation since 1933 and for the first time in its history a special review of all cases outside was done and it has been possible to remove from statistics cases under observation over 10 years who were termed suspicious, abortive, stationary, improved under treatment, and natural arrest of disease. The total number of such cases were 366 and this is how our total number living in the Island reduced from 3,150 in 1948 to 2,784 in 1949. The records of these cases are however kept separately for future reference and for future epidemiological work.

Statement showing Incidence of Leprosy at the end of 1949

Statement showing Incidence of Leprosy at the end of 1949

	Segregated	*Parole*	*Discharged on Parole*	*Deaths*	*Total Living*
Western	498	880	80	747	1,458
Southern	203	218	44	314	465
Eastern	71	74	20	267	165
Central	106	75	9	101	190
Sabaragamuwa	83	102	15	116	200
Uva	73	31	9	48	113
North Western	32	34	6	37	72
North Central	11	15	4	14	30
Northern	32	51	8	89	91
Total	1,109	1,480	195	1,733	2,784

Analysis of the 2,784 Living Cases

Age	Under 14	143
	Over 14	2,641
Sex	Males	2,004
	Females	780
Race	Sinhalese	1,959
	Ceylon Tamils	219
	Ceylon Moors	213
	Malays	13
	Burghers	59
	Indians	318
	Others	3
Type	Lepromatous	927
	Neural	1,857
Stage	Lepromatous	927
	Neural active	1,019
	Quiescent	591
	Arrested	206
	Abortive	41

Disposal

Scheduled to hospitals	1,109
Dicharged on Parole	168
On Parole	1,460
For segregation	47

Field Work

Field work consists of:—

(a) *Observation of cases and contacts and home visits*:

Number of houses visited during the year	6,474
Number of cases seen, examined and progress noted	1.822
Number of contacts seen and examined	11,513
Number of cases detected among the contacts	97

(b) *Propaganda* this has been carried out with lectures and talks on the subject in villages, schools and clinics.

Number of village talks	314
Number of school talks	78

(c) *School Survey*

Number of schools visited visited	66
Number of children examined	14,672
Number of cases detected	4

(d) *Conferences*.—Special conferences were held by the Medical Superintendent, Leprosy Control in almost all the Health Offices where the progress of leprosy work in the villages was discussed with the Health Officers and the Sanitary Inspectors.

Number of conferences	36

(e) *Training in Leprosy.*—Demonstrations and lectures were given to edical and Apothecary Students and students of the College of Indigenous edicine and Sanitary Learners. Talks on leprosy were also given to Teachers nder training in the Government Training College and Musaeus College Training chool. Visitors interested in leprosy were also given demonstrations in leprosy.

rogress of Work

Leprosy behaves like any other epidemic disease but the curve of the epidemic uns into centuries instead of weeks and months. Although leprosy work has hown progress in recent years and the total number of new detections and the iving cases for the year have shown a decrease, one has to compare figures for en year periods to come to definite conclusions in a chronic disease like leprosy.

ummary of Salient Features of Work

The measures adopted for the control of leprosy are divided into Preventive and urative measures:

reventive

(1) Segregation of infective cases in institutions.
(2) Observation and treatment of non-infective cases in clinics.
(3) Examination and observation of contacts every six months in their homes.
(4) Control of discharged cases.
(5) Separation of children of leprosy cases at birth.
(6) Repatriation of all leper immigrants.
(7) Prevention of leprosy cases coming into the Island at Mandapam and Tattaparai.
(8) Propaganda and Education.
(9) Surveys of schools and villages.
(10) Care of the family.

urative

General

(1) General treatment and nursing care.
(2) Occupational Therapy.

Special

(1) Hydnocarpus oil treatment.
(2) Sulphone injections.
(3) Combined Hydnocarpus and Sulphone Therapy.

(E) MATERNITY AND CHILD WELFARE WORK

Work on this important aspect of the activities of the Department continued to receive he highest attention of the Department. The results of this work during the year review have been very gratifying.

The Maternal Death Rate for the year is 6.5 per 1,000 live births and its appreciable reduction from the rate of 8.3 per 1,000 live births in 1948 is consequent on the concentrated attention in this sphere of activity. Needless to say the Maternal Death Rate for the year under review is the lowest recorded so far.

The work in connection with the care of the Infant also received great attention as in previous years and the Infant Mortality Rate for the year is 87 per 1,000 live births which compares favourably with the rate of 92 per 1,000 live births for the year 1948.

Personnel

Public Health Nurses	45
Midwives	984*

* This figure includes 106 Midwives employed under Local Authorities.

The number of Public Health Nurses engaged in Maternity and Child Welfare is 45 for the year as against 41 in the previous year. The number of Midwives is 984 as compared with 918 for the year 1948 indicating an increase of 66.

Table LXXXVIII—Health Centres

	1948	*1949*
1. Number of Health Centres	602	662
2. Number of Clinics held	20,488	23,971
3 Number under care:		
(*a*) Expectant mothers	306,295	263,856
(*b*) Infants	170,483	180,522
(*c*) Pre-school	131,333	118,092
4. (A) *Visits to Clinics by :*		
(*a*) Expectant mothers	276,611	296,340
(*b*) Infants	236,894	330,205
(*c*) Pre-School	72,861	97.229
(B) *Work of Nurses :*		
(i) Number of Public Health Nurses	41	45
(ii) Number of Home-visits	65,547	71,255
(iii) Number of visits to expectant mothers	36.122	42,112
(iv) Number of visits to infants	28,906	34,810
(v) Number of Pre-school children	20,762	23,580
(C) *Work of Midwives :*		
(i) Number of Midwives	918	984
(ii) Number of Home-visits	1,273,916	1,313,720
(iii) Number delivered by Midwives	72,408	70,351
(iv) Number sent to Hospital for delivery	18,078	32,829
(v) Number sent to Maternity Home for delivery	10,764	14,657
(vi) Number of postpartum visits	572.182	565.049
(vii) Number of maternal deaths	830	861
(D) *Maternity Homes :*		
(i) Number of Maternity Homes run by Government	71	81
Number of beds	766	885
(ii) Number of Homes run by Local Authorities	12	12
Number of beds	72	74
(iii) Number of Homes run by local Private bodies	3	3
Number of beds	57	57
(iv) Number of cases admitted to all Homes	22,736	27,729
(v) Number of deliveries	16,277	19,727
(vi) Number of Live-Births	15,936	19,319
(vii) Number of Maternal Death	25	33
(viii) Number of Infant Deaths	212	237
(ix) Number of Still-Births	341	509
(x) Number sent to Hospitals	1,998	701
(xi) Number of destitute Maternity cases transferred to Hospitals	240	222

(E) *Hospital Deliveries :*

(i) Number delivered in Rural and Cottage Hospitals ...	8,430 ...	11,500
(ii) Number delivered in Estate Hospitals ...	4,264 ...	6,243
(iii) Number in other Hospitals	29,974 ...	31,370

Health Centres.—With the opening up of 60 more new Health Centres during the year the total of such Centres was brought to 662. The number of clinics held during the year is 23,971 compared with 20,488 in the previous year, showing a favourable increase of 3,483. The number of expectant mothers and pre-school children under care fell from 306,295 and 131,333 in 1948 to 263,856 and 118,092 respectively during the year 1949. There was an increase in the number of infants under care from 170,483 in 1948 to 180,522 in the year under review.

Public Health Nurses.—There were 45 Public Health Nurses engaged in Maternity and Child Welfare work. Working directly under the supervision of the Medical Officer of Health, they made 71,255 home visits during the year under review. Their visits to expectant mothers, pre-school children and infants amounted to 42,112; 23,580; and 34,810 respectively showing an all-round increase when compared with similar figures for last year which were 36,122; 20,762 and 28,906 respectively.

Midwives and their Work.—The number of Midwives engaged in Maternity and Child Welfare work for the year increased from 918 in 1948 to 984. They conducted 70,351 deliveries for the year as against 72,408 for the previous year. There was an appreciable increase in the number of home-visits by these Midwives during the year, the number being 1,313,720 compared with 1,273,916 for the last year. The number of mothers sent to Maternity Homes for delivery also rose from 10,764 to 14,657 and the number of past-partum visits by Midwives was 565,049 and the number of Maternal deaths among the mothers under the care of the Midwives showed a slight increase from 830 to 861 for the year.

Maternity Homes.—In accordance with the intention of the Government to provide at least 10 new Maternity Homes each year, 11 institutions were completed and opened for public use during the year thus increasing the bed-strength in these institutions to 885 from 766 for the last year and bringing the total number of Maternity Homes to 81 at the end of the year. The number of Maternity Homes run by Local Authorities and those run by private bodies remained the same as for last year viz., 12 and 3 respectively. The bed strength at these Maternity Homes was 74 and 57 respectively. The total number of admissions was 27,729 and 19,727 deliveries were conducted at these institutions. As usual, the deliveries were conducted by Midwives under the supervision of Public Health Nurses wherever available. The Death Rate of mothers who were in these institutions was 1.7 per 1,000 births.

Milking Feeding Centres.—These Centres continue to play an important part in the dieting of expectant mothers and of pre-school children. 200 such centres are located in our Health Centres. Distribution of milk at these centres is done under the supervision of the Medical Officer of Health, Public Health Nurse, Sanitary Inspector or the Midwife.

Occupational Therapy.—A sum of Rs. 6,000 was provided in the Estimates of the year for this purpose. It has been realized that this type of activity in Maternity Homes, besides keeping mothers engaged while they are in the institutions helps the mothers to continue such activities as sewing, lace-making and mat weaving, &c., to earn their livelihood after they leave he institutions.

(F) SCHOOL HEALTH WORK

The number of schools in the Island is 6,241 of which 1,354 have been visited and children of these schools were examined. Lack of personnel is the reason for the inability to take up all the schools as desired.

Personnel.—The list of personnel engaged in school health work during the year 1949 is given below.

Table LXXXIX

Province	*Medical Officers of Health*	*School Medical Officers*	*District Medical Officers*	*Women Medical Officers*	*School Health Nurses*
Western	18	4	1	1	7
Central	14	1	4	—	1
Southern	11	2	3	1	—
Northern	7	1	3	1	1
Eastern	4	—	2	2	—
North-Central	4	—	1	—	—
North-Western	16	—	—	1	—
Uva	3	—	3	—	—
Sabaragamuwa	13	—	1	—	—
Total	90	8	18	6	9

Schools and School Population

There are 6,241 schools in the Island. This does not include unregistered and special type of schools. The school population is estimated at 1,117,695. The total number of schools in which school health work has been carried out during the year is 1,354. The schools were distributed by provinces as follows:—

Western	402
Central	183
Southern	238
Eastern	49
Northern	140
North-Central	38
North-Western	143
Sabaragamuwa	119
Uva	42

The school population dealt with the schools under review is 102,184 of which 59,464 are boys and 42,720 are girls. 35,977 are in primary schools, 56,040 in secondary, 2,113 in central, 7,921 in collegiate and 133 in training schools.

The school poplation dealt with is classified by provinces as follows:—

Western	35,284
Central	19,885
Southern	18,757
Northern	7,700
Eastern	2,977
North-Central	1.301
North-Western	7,604
Uva	1,786
Sabaragamuwa	6,890

Activities carried out

1,354 schools were visited for purpose of medical inspection by Medical Officers of Health and other staff engaged for this work.

Table XC—Schools Examined

Scholars Examined

Province	*Total*	*Boys*	*Girls*	*Primary*	*Secondary*	*Central*	*Collegiate*	*Training*
Western	35,284	19,472	15,812	10,905	19,199	813	4,258	109
Central	19,885	13,643	6,242	5,382	12,727	306	1,470	—
Southern	18,757	10,351	8,406	7,043	11,110	139	441	24
Eastern	2,977	1,756	1,221	2,246	731	—	—	—
Northern	7,700	4,275	3,425	4,357	1,844	105	1,394	—
North-Central	1,301	756	545	706	496	43	56	—
North-Western	7,604	4,231	3,373	2,350	4,682	459	113	—
Sabaragamuwa	6,890	3,931	2,959	1,987	4,506	208	189	—
Uva	1,786	1,049	737	1,001	745	40	—	—
Total	102,184	59,464	42,720	35,977	56,040	2,113	7,921	133

Table XCI—Schools visited for Medical Inspection of Children

Province	*Schools Examined*	*Visits*					*Number of Defective Children*	*Percentage Defective to Scholars Examined*	*Number of Defects*	*Defects per Defective Child*
		1st	*2nd*	*3rd*	*Special*	*Total*				
Western	402	402	312	147	153	1,014	22,592	64·0	43,532	1·9
Central	183	183	101	44	13	341	8,982	45·2	16,855	1·9
Southern	238	238	303	65	65	671	13,430	71·6	24 991	1·9
Eastern	49	49	12	5	2	68	3,150	105·8	4,855	1·5
Northern	140	140	27	12	10	189	5,574	72·4	13,934	2·5
North-Central	38	38	—	—	—	38	890	68·4	1,484	1·7
North-Western	143	143	12	4	2	161	6,214	81·7	12,327	2·0
Sabaragamuwa	119	119	52	15	27	213	3,984	57·8	8,675	2·2
Uva	42	42	11	8	12	73	1,438	80·5	3,511	2·4
Total	1,354	1,354	830	300	284	2,768	66,254	64·8	130,164	2·0

The number of defects per child is 2.0 and is a little higher than the figure for 1948 which was 1.9. It is still observed that facilities available for the correction of some of the defects at least have not yet been taken advantage of fully. In order to improve this aspect of school health work, it is felt that the co-operation of teachers and the Medical Officers in hospitals has to be enlisted to a greater degree.

The examination of school children by different categories of Medical Officers is shown in table.

TABLE XCII—NUMBER OF SCHOLARS (*EXAMINED*)

Province	*Medical Officers of Health*	*School Medical Officers*	*Women Medical Officers*	*Medical Officers*
Western	9,454	25,830	—	—
Central	8,085	11,762	—	38
Southern	10,844	7,913	—	—
Eastern	2,915	—	—	62
Northern	3,393	3,354	—	953
North-Central	1,301	—	—	—
North-Western	7,604	—	—	—
Sabaragamuwa	6,890	—	—	—
Uva	1,533	—	—	253
Total	52,019	48,859	—	1,306

Correction of Defects

The following Tables give the type of defects detected at the medical inspection of school children. The percentage each defect forms to total defects, the number of defects of each kind by provinces, defects corrected and their percentages and the number of each defect corrected at medical inspection in different provinces are shown.

(For Tables XCIII and XCIV see pages 139 and 140)

Hook-Worm Infestation

This disease ranks second in the list of defects detected at medical inspection. 19.0 per cent. of the scholars examined disclosed this defect and this formed 14.9 per cent. of the total defects.

243,573 children were treated during the year 1949. The diagnosis of the condition among school children is based on clinical examination only. As 19.0 of the children examined are found to be suffering from hook-worm infestation much remains still to be done in the control of this disease. In connection with this the programme of construction of sanitary latrines will be put into effect more intensively.

The following are some of the defects found at the medical inspections:—

TABLE XCV

Defects	*Percentage to Scholars Examined*	*Percentage to Total Defects*
Hook-Worm	19.0	14.9
Teeth and gums	9.9	7.8
Malnutrition	20.0	15.7
Anaemia	16.5	13.0
Unvaccinated	10.4	8.2
Pediculosis	9.3	7.3
Adenoids and Tonsils	5.8	4.5
Uncleanliness	5.4	4.2

TABLE XCIII—DEFECTS FOUND

	Total	Percentage to total Defects	*W. P.*	*C. P.*	*S. P.*	*N. P.*	*E. P.*	*N. W. P.*	*N. C. P.*	*Uva*	*Sabaragamuwa*
Malnutrition	20,393	15·67	6,462	1,837	5,498	1,403	1,718	1,713	261	340	1,161
Uncleanliness	5,507	4·23	2,325	393	482	859	139	558	118	276	357
Unvaccinated	10,647	8·18	3,218	1,185	1,740	1,154	395	1,246	295	419	995
Eyes	1,292	0·99	859	92	160	41	32	35	4	26	43
Ears	928	0·71	141	586	41	32	37	33	6	19	33
Defective Vision	1,210	0·93	854	135	98	56	—	31	1	15	20
Defective Hearing	99	0·08	39	21	17	11	—	4	1	1	5
Enlarged Glands	538	0·41	107	272	76	21	6	32	—	6	18
Enlarged Spleens	406	0·31	—	5	76	5	178	91	11	23	17
Lymph Glands	151	0·12	50	1	26	—	—	70	—	—	4
Dental Caries	12,032	9·24	8,087	778	899	699	102	689	191	352	235
Teeth and Gums	10,137	7·79	1,829	1,985	2,187	780	119	1,797	132	282	1,026
Nose	46	0·04	—	15	15	2	2	—	—	12	—
Adenoids and Tonsils	5,877	4·52	2,406	786	559	1,164	36	418	19	306	188
Anaemia	16,898	12·98	2,703	1,161	6,440	2,241	323	1,973	125	544	1,388
Heart	153	0·12	79	27	16	12	1	12	2	1	3
Lungs	215	0·17	155	9	27	1	1	10	—	2	10
Hernia	27	0·02	15	—	1	1	—	9	—	—	1
Orthopaedic	96	0·07	33	12	4	4	—	1	—	23	19
Nervous System	10	0·01	—	8	—	2	—	—	—	—	—
Rickets	198	0·15	—	71	95	3	—	4	—	25	—
Skin	2,098	1·61	1,235	246	320	19	10	85	4	27	152
Scalp	132	0·10	79	17	13	3	—	1	—	—	19
Hook-worm	19,383	14·89	3,812	3,322	3,561	2,852	1,262	2,105	101	442	1,926
Malaria	900	0·69	103	100	56	179	165	182	35	51	29
Abnormal Behaviour	3	0·002	3	—	—	—	—	—	—	—	—
Mental Deficiency	27	0·02	11	2	4	6	1	2	—	—	1
Speech	119	0·09	105	2	5	5	—	—	—	1	1
Scabies	2,144	1·65	987	126	337	421	40	73	22	32	106
Pediculosis	9,495	7·29	3,435	1,168	1,933	737	236	891	123	272	700
Ring-worm	187	0·14	35	17	52	8	18	16	7	1	33
Other Defects	8,816	6·77	4,365	2,476	253	1,213	34	251	26	13	185
Total	130,164	100·00	43,532	16,855	24,991	13,934	4,855	12,327	1,484	3,511	8,675

TABLE XCIV—DEFECTS CORRECTED

Defects	*Total*		*Percentage corrected to Defects Found*	*W. P.*	*C. P.*	*S. P.*	*N. P.*	*E. P.*	*N. W. P.*	*N. C. P.*	*Uva*	*Sabaragamuwa*
	Found	*Corrected*										
Malnutrition	20,393	7,027	34·5	2,435	560	1,569	872	379	567	32	57	556
Uncleanliness	5,507	3,757	68·2	1,559	171	425	753	91	336	79	103	240
Unvaccinated	10,647	6,962	65·4	1,788	903	1,401	647	316	787	27	376	717
Eyes	1,292	689	53·3	535	14	94	1	28	5	2	—	10
Ears	928	605	65·2	39	494	16	9	34	2	1	1	9
Defective Vision	1,210	106	8·8	62	19	13	4	—	5	—	—	3
Defective Hearing	99	6	6·1	—	—	—	4	—	—	—	—	2
Enlarged Glands	538	75	13·9	35	8	11	9	6	2	—	4	—
Enlarged Spleens	406	243	59·9	—	3	64	—	156	7	—	11	2
Lymph Glands	151	15	9·9	14	1	—	—	—	—	—	—	—
Dental Caries	12,032	4,051	33·7	3,199	226	226	264	43	23	16	3	51
Teeth and Gums	10,137	1,827	18·0	324	284	657	183	66	191	—	27	95
Nose	46	2	4·3	—	—	1	—	—	—	—	1	—
Adenoids and Tonsils	5,877	8	49·5	1,703	338	250	338	15	121	4	91	48
Anaemia	16,898		51·1	1,503	473	3,627	1,776	173	423	62	227	370
Heart	153	8	17·6	7	16	1	—	1	2	—	—	—
Lungs	215		40·9	68	3	10	—	1	—	—	1	5
Hernia	27		3·7	1	—	—	—	—	—	—	—	—
Orthopaedic	96	1	13·5	13	—	—	—	—	—	—	—	—
Nervous System	10	—	·0	—	—	—	—	—	—	—	—	—
Rickets	198	22	11·1	—	—	22	—	—	—	—	—	—
Skin	2,098	1,030	49·1	682	125	116	—	7	31	—	17	52
Scalp	132	66	50·0	45	5	—	—	—	—	—	—	16
Hook-worm	19,383	,616	70·2	3,470	1,777	2,037	1,798	1,154	1,919	40	235	1,186
Malaria	900	477	53·0	59	6	23	128	142	75	4	32	8
Abnormal Behaviour	3	—	·0	—	—	—	—	—	—	—	—	—
Mental Deficiency	27	3	11·1	3	—	—	—	—	—	—	—	—
Speech	119	35	29·4	35	—	—	—	—	—	—	—	—
Scabies	2,144	1,545	72·1	796	52	240	283	40	31	20	29	54
Pediculosis	9,495	6,462	68·1	2,692	467	1,479	585	232	286	121	209	501
Ring-worm	187	114	61·0	16	7	29	5	15	6	7	1	28
Other Defects	8,816	4,552	51·6	2,383	1,432	72	498	27	81	11	5	43
Total	130,164	64,958	49·9	23,466	7,384	12,383	8,157	2,926	4,900	426	1.430	3,383

Diseases of teeth and gums

21.7 per cent. of the school children examined showed dental caries and disorders of teeth and gums. The defects together form 17.0 per cent. of the total defects found in the scholars.

The Dental Van was out of order, hence dental work could not be carried out at the mobile dental clinics. It is hoped to arrange for the mobile dental clinics this year as soon as the van is repaired.

In addition to the work done by the mobile clinic, dental defects are corrected at the following dental clinics:—

(1) Dental Institute, Colombo.
(2) Dental Clinic, Negombo.
(3) Do. Galle.
(4) Do. Ambalangoda.
(5) Do. Kandy.
(6) Do. Jaffna.
(7) Do. Batticaloa.
(8) Do. Kurunegala.
(9) Do. Kegalla.
(10) Do. Anuradhapura.
(11) Do. Mannar.
(12) Do. Trincomalee.
(13) Do. Panadure.
(14) Do. Moratuwa.
(15) Do. Badulla.
(16) Do. Bandarawela.
(17) Do. Nuwara Eliya.
(18) Do. Chilaw.
(19) Do. Matale.

A School Dental Surgeon has been appointed with effect from December 1, 1949, and a school dental survey has been undertaken as a preliminary measure with a view to ascertain the extent of correction of dental defects which still remain unattended.

Malnutrition

20,393 children were found to be suffering from malnutrition. Malnutrition among children was chiefly due to the fact that parents cannot afford to give their children food of nutritive value. In the majority of cases this was the sole cause; though in a few cases ignorance on the part of parents regarding dietetics was still a contributing cause.

The mid-day meal in schools consists of a tea bun or 3 ozs. of bread and a cup of plain tea with sugar. Only a few schools provide vegetable, dhal or Sprats to be taken with bread.

The desirability of substituting a glass of milk for the above has to be stressed again.

Pediculosis

9.3 per cent. of the children examined were found to have this defect and it formed 7.3 per cent. of the total defects. This defect is chiefly detected in girls' schools. School Health Nurses and Public Health Nurses attend to the correction of these defects. In places where they are not working, school teachers can easily take up this activity as the correction needs no technical knowledge and necessary equipment is cheap and available. This should form a practical demonstration in Health Education adopted by the teachers.

Anaemia

16.5 per cent. of the children examined were found to have this defect and it formed 13.0 per cent. of the total defects. This condition is due to malaria, hook-worm and malnutrition.

Tonsils and Adenoids

This contributed 4.51 per cent. of the total defects. Correction of this defect in its advanced stages can only be done satisfactorily in well equipped hospitals. 49.5 per cent. of these defects was corrected.

Uncleanliness

5.4 per cent. of the scholars examined showed this defect which formed 4.2 per cent. of the total defects. The defect is normally corrected by the teachers themselves in their daily routine health education procedures.

Malaria

This condition was observed in 0.88 per cent. of the scholars examined. With the spraying of D.D.T. undertaken in hyper-endemic and endemic areas, the incidence of this disease should decline.

Unvaccinated

Protection against small-pox vaccination was found missing in 10.4 per cent. of the children examined and this defect contributed towards 8.2 per cent. of the total defects found. This defect could be minimized if the Head Masters in schools insist on preliminary vaccination of the school child on admission.

School clinics held

The table below shows by provinces the number of clinics held and the number of children treated.

TABLE XCVI—SCHOOL CLINICS

Province	*Number of clinics held*	*Number of Children treated*
Western	460	10,084
Central	205	5,786
Southern	132	7,632
Northern	63	1,297
Eastern	6	1,610
North-Central	12	142
North-Western	12	551
Sabaragamuwa	27	1,059
Uva	13	258
Total	930	28,419

Sanitation

Routine survey of sanitation in schools was carried out by the Medical Officers of Health. Of 4,433 schools inspected about 1,000 schools had no adequate latrine accommodation and most schools had no protected water supply. For 877,151 children there were only 8,609 seats of latrines and 3,195 urinal compartments. It is hoped that more cement being now available at an economic price, latrine construction and improvements to water supplies will receive the attention of the education authorities.

The importance of providing adequate sanitary facilities for school children cannot be over stressed both for the immediate advantage gained and for the educational value they must possess.

TABLE XCVII—SANITATION

	W. P.	*C. P.*	*S. P.*	*N. P.*	*E. P.*	*N. C. P.*	*N. W. R.*	*Sab.*	*Uva*	*Total*
Schools	1,186	566	617	524	246	116	584	405	189	4,433
School Children	286,210	101,680	152,071	80,245	40,511	9,248	98,306	76,090	32,790	877,151
Schools with latrines	738	427	474	390	146	103	584	358	143	3,363
Total seats	2,591	1,272	1,213	1,137	285	166	971	670	304	8,609
Schools with urinals	416	141	126	185	35	1	90	127	20	1,141
Total urinal compartments	880	483	408	791	142	2	242	220	27	3,195
Schools with covered vessels for water shortage	513	167	211	234	70	43	201	133	44	1,616
Schools with individual drinking cups	619	280	348	266	96	31	396	193	93	2,322

Health Education

Health Education is the basis of all school health work. The importance of conveying information to the children regarding matters pertaining to health through teachers themselves is being increasingly appreciated. During the year, 83 training classes were held.

The following table shows the routine Health Education procedures and health instructions and other activities connected with Health Education carried out in the various provinces:—

TABLE XCVIII—NUMBER OF SCHOOLS CARRYING OUT PROCEDURES

Health Education	*Western Province*	*Central Province*	*Southern Province*	*Northern Province*	*Eastern Province*	*North Central Province*	*North-Western Province*	*Uva*	*Sabaragamuwa*	*Total*
1. Daily morning inspection	928	454	590	315	128	101	488	147	389	3,540
2. Scoring of Health habit booklet	101	84	77	45	17	3	89	13	54	488
3. Weighing and measuring	424	241	222	79	35	5	175	33	151	1,365
4. Use of handkerchief	525	254	375	138	57	16	213	56	150	1,784
5. Proper storage of drinking water	612	222	417	248	99	57	296	82	217	2,250
6. Use of individual drinking cups	669	267	338	272	101	32	245	93	219	2,236
7. Pupil participation, &c.	575	424	559	294	140	83	351	109	358	2,893
8. Mid-day meals	977	507	615	649	189	163	539	169	449	4,257
9. Health Clubs	123	68	30	49	16	9	39	6	43	383
10. Organized play	924	434	543	371	181	105	401	116	333	3,403

Control of Communicable Diseases

Notified incidence of communicable diseases in schools by provinces is shown in the following table:—

TABLE XCIX—COMMUNICABLE DISEASES

Diseases	*Western Province*	*Central Province*	*Southern Province*	*Eastern Province*	*Northern Province*	*North-Central Province*	*North-Western Province*	*Sabaragamuwa*	*Uva*	*Total*
Chicken-pox	780	226	307	38	25	16	86	258	64	1,800
Cholera	—	—	—	—	—	—	—	—	—	—
Diphtheria	9	1	—	—	—	—	—	—	—	10
Dysentery	17	3	25	1	—	3	2	—	—	51
Typhoid	9	22	38	2	11	3	7	28	6	126
Measles	264	45	214	4	86	28	72	25	27	765
Mumps	181	40	15	4	109	1	23	16	1	390
Plague	—	—	—	—	—	—	—	—	—	—
Pthisis	—	—	—	—	1	—	—	1	—	2
Small-pox	—	—	—	—	—	—	—	—	—	—
Whooping Cough	42	145	1	1	—	3	—	19	4	215
Number of schools closed on account of Infectious Diseases	—	2	1	1	—	—	—	7	1	12

This year too, except for Diphtheria and Pthisis, the incidence of the diseases is rather high.

Hook-Worm Treatment

1,925 schools were visited for hook-worm treatment and 243,573 children were treated. Treatment for hook-worm disease is being availed of in increasing numbers year after year, and much of the response is due to the interest and enthusiasm displayed by the teachers in this sphere of work.

TABLE C—HOOK-WORM TREATMENT

Province	*Western Province*	*Central Province*	*Southern Province*	*Eastern Province*	*Northern Province*	*North-Central Province*	*North-Western Province*	*Sabaragamuwa*	*Uva*	*Total*
Schools	486	92	316	111	224	151	353	154	38	1,925
Scholars Treated	73,184	12,949	39,674	9,454	24,527	6,664	59,867	12,932	4,322	243,573

Anti-Typhoid inoculation

With the co-operation of teachers this very essential measure of protecting the scholars from Typhoid fever by immunisation has been done with great success.

The following table shows the number of children given the first and second inoculations by provinces for the year under review:—

TABLE CI—ANTI-TYPHOID INOCULATION

Province	*Western Province*	*Central Province*	*Southern Province*	*Eastern Province*	*Northern Province*	*North-Central Province*	*North-Western Province*	*Sabaragamuwa*	*Uva*	*Total*
First Dose	8,639	5,986	6,103	210	3,475	13	3,653	5,231	800	34,110
Second Dose	8,258	5,256	5,207	191	5,616	13	3,340	4,900	771	33,553

The following table shows the primary and secondary vaccination during the year under review:—

TABLE CII—VACCINATION

	Western Province	*Central Province*	*Southern Province*	*Eastern Province*	*Northern Province*	*North-Central Province*	*North-Western Province*	*Sabaragamuwa*	*Uva*	*Total*
Primary	7,399	1,786	934	619	2,776	902	1,509	462	595	16,982
Secondary	5,482	151	615	2,000	558	—	578	726	193	10,303
Total	12,881	1.937	1,549	2,619	3,334	902	2,087	1,188	788	27,285

VI—INTERNATIONAL HEALTH

Ceylon was unanimously admitted a member of the World Health Organization by the World Health Assembly at its Session on June 28, 1948. Ceylon's Instrument of Acceptance was subsequently deposited in New York on July 7, 1948, and Ceylon's participation in the activities of the WHO commenced from this date.

During 1948 and 1949 attention was devoted mainly to the obtaining of assistance by way of Fellowships. The Fellowship programme consisted of the following:—

Two Fellowships on Malaria Eradication.
Two Fellowships on Venereal Diseases.
Two Fellowships on Maternal and Child Health.

These awards, sponsored by the WHO, were made to six officers of the Department and three officers have since returned to the Island, having completed their studies abroad.

The Government had to make a contribution of $4,957 towards this Organization in return for assistance obtained during the years 1948 and 1949. The cost of the Fellowships offered and availed of is estimated at about $15,800.

A programme has since been drawn up in greater detail for the year 1950. Under this programme assistance in regard to the following has been asked for:—

1. Development of a National Tuberculosis Centre.
2. Demonstration Team for Malaria Eradication projects.
3. Establishment of Health Demonstration area.
4. Staff and Equipment for the Malaria Field Training Centre.
5. Strengthening of the Medical Research Institute.
6. Fellowships.
7. Consultant in Leprosy.
8. Consultant in Nutrition.
9. Venereal Diseases Demonstration Team.
10. Office Administration Demonstration Team.

The following indicates the assistance obtained during 1949:—

Filariasis Control

It has been possible to secure the services of Dr. M. O. T. Iyengar, Filariasis Expert of the WHO, to report on the control of Filariasis, which has become a serious problem. This expert submitted his report to the WHO after a survey of the Island with the local officers and his report was adopted. In terms of his recommendations, Ceylon had to secure the services of the same expert to train local officers in the methods of control of Filariasis, and action is now being followed on the lines indicated on the Report.

Venereal Diseases Control

Dr. George Leiby, Professor of Internal Medicine and Syphilology at the University of California and V. D. Consultant to the WHO, visited the Island during the latter part of the year and gave several lectures in Colombo on modern methods of treatment. Dr. Leiby's visit lasted for ten days during which he visited various clinics and has submitted a report for the better organization of V. D. work in the Island with the assistance of the WHO.

CONFERENCES

(1) The Second World Health Assembly

The Second World Health Assembly attended by delegates of 54 Member States, representatives of the United Nations and its specialized agencies, and observers from five non-member States and twenty-one International Organizations, opened in Rome on June 13, 1949, and concluded on July 2, after three weeks of intensive work.

Ceylon was represented by the Hon'ble Mr. S. W. R. D. Bandaranaike, Minister of Health and Local Government (Chief Delegate), Dr. W. G. Wickremasinghe, Director of Medical and Sanitary Services, and Dr. S. Rajendram, Superintendent, Anti-Malaria Campaigns. This Health Assembly elected the Hon'ble Mr. S. W. R. D. Bandaranaike as one of its three Vice-Presidents.

(2) The Regional Committee for South-East Asia

The Regional Committee for South-East Asia met for the second time at New Delhi from September 26 to 28, 1949. Ceylon was represented by the Hon'ble Mr. S. W. R. D. Bandaranaike (Chairman) and Dr. W. G. Wickremasinghe. This Committee included representatives of Afganistan, Burma, Ceylon, France, India, Portugal and Thailand. Among the subjects discussed were the Joint FAO/WHO Project, Malaria, Tuberculosis, Venereal Diseases, and Pestilential Diseases.

Expert Committees

The Joint ILO-WHO Committee on Hygiene of Seafarers held its first session in Geneva from December 12 to 14, 1949.

Ceylon was represented by Dr. H. N. C. V. Kelaart, Divisional Medical Superintendent of Health.

Among the subjects discussed were:

(*a*) Definition of problems affecting the health of Seafarers and included subjects such as Tuberculosis and Venereal Diseases.
(*b*) The organization of Medical Examination.
(*c*) The problem of Hospitalization.
(*d*) Methods to be used for collecting and utilizing information.

The following additional subjects were suggested for study at subsequent sessions:—

(*a*) Standard of fitness for Seafarers.
(*b*) Training of Personnel.
(*c*) Personal Hygiene and other preventive measures.
(*d*) Establishment of Supervision and Control of Medical Facilities in major Ports.

UNITED NATIONS' INTERNATIONAL CHILDREN'S EMERGENCY FUND

The other International Organization in which the Department of Medical and Sanitary Services is greatly interested is the United Nations' International Children's Emergency Fund.

The Basic Agreement, which is a pre-requisite to any Government desiring to become a Member of the United Nations' International Children's Emergency Fund and avail itself of the benefits that may accrue as a result, has not been signed owing to the delay in the re-drafting of the relevant Ordinances of the Government of Ceylon that are directly implicated by the Agreement.

Notwithstanding this, it was possible to receive an allocation of $100,000 for the year 1949. Consequent on a decision arrived at between the UNICEF authorities and the Ministry of Health and Local Government, this $100,000 allocation was to be utilized for health and medical projects as the programme for Ceylon in respect of 1949 was to be purely a medical one.

Accordingly, the programme drawn up was based broadly under the following headings:—

(*a*) Fellowships Programme.
(*b*) Other National Projects, viz., Tuberculosis, Venereal Diseases, &c.

The Fellowship Programme

Under this programme, the UNICEF has approved the Government's request for eight Fellowships on the following subjects:—

Two Fellowships on Maternal and Child Health	Doctors.
Two Fellowships on School Health	Doctors.
Two Fellowships on Paediatrics	Nurses.
One Fellowship on Tuberculosis	Nurse.
One Fellowship on School Health	Nurse.

The eight Fellows already selected will proceed immediately on receipt of information from the UNICEF as to their placement in the country of study. $32,000 has been tentatively set apart for this purpose.

Tuberculosis Project

Plans have already been drawn up in consultation with technical experts from the WHO for the implementation of a programme to control Tuberculosis, which has now become the most serious medical and socio-economic problem of the Island. The cost of this project has been estimated to be $64,000 which is to be met from the UNICEF allocation. This is only a tentative amount to start with.

The immediate objective is to establish a Tuberculosis Control Demonstration and Training Centre which will not only seek to render an up-to-date service to a selected group of population, but also provide training to Doctors, Nurses and Technicians in the modern methods of tuberculosis control.

Later action will be taken to establish similar centres in other parts of the Island.

A B.C.G Campaign was started in March, 1949. A Scandinavian team consisting of a doctor and two nurses worked in Ceylon for over six months and left the Island after training three local teams which are working at present.

Contributions from the Government of Ceylon

In return for assistance received from the Fund, Ceylon has to meet a proportion of the expenses incurred by the Fund by its maintaining a Regional Office in India. The total amount involved is estimated to be about Rs. 4,000 per quarter year.

TABLE CIII—EXPENDITURE ON INTERNATIONAL HEALTH WORK, 1949

Contributions paid 1948–49			*Description*	*Amount*
Head	*Vote*	*Sub-head*		*Rs.*
88	3	1	Contribution to WHO for 1948	6,449
88	3	1	Contribution to WHO for 1949	9,996
88	3	1	Contribution to the Bureau of Hygiene and Tropical Diseases, London	3,556
88	3	1	Contribution towards the maintenance of the Hospital for Tropical Diseases, London	965
			Total	20,966
Contributions due 1949–50				*Rs.*
88	3	1	Contribution to WHO for 1950	18,735
88	3	1	Contribution to the Bureau of Hygiene and Tropical Diseases, London	3,556
88	3	1	Contribution towards the maintenance of the Hospital for Tropical Diseases, London	334
			*Contribution towards United Nations' International Children's Emergency Fund	15,400
			Total	38,025

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* Allocation sought from the Permanent Secretary to the Ministry of Defence and External Affairs.

Expenditure on Attendance at Conferences 1948–49 Head	Vote	Sub-head	*Description*	*Amount* Rs.
16	4	2	Expenses of Dr. W. G. Wickremasinghe at the Second Session of the Executive Board, WHO—October, 1948	200
16	4	2	Expenses of Dr. W. G. Wickremasinghe at the Third Session of the Executive Board, WHO—February, 1949	785
88	1	37	Expenses of Departmental Officers attending International Conferences	8,648
88	1	49	International Congress in Mental health and study tour	2,197
16	7	2	South-East Asia Regional Conference, Delhi (including expenses of the Minister of Health and Local Government)	1,577
			Total	13,407

Visits of Experts		
1948–49 *1949–50*	(Particulars in next Table)	9,627

TABLE C IV—EXPENDITURE ON FOREIGN VISITORS—1949

Name of Visitors	*Purpose of Visit*	*Provision obtained* Rs.	*Expenditure up to 31-12-49* Rs.	*Claims pending*	*Remarks*
1948–49					
Dr. Edgar Meyer	T. B. Work	—	—	—	
Dr. Svendson	BCG Campaign	12,000	7,928	nil	
Dr. Norstedt	BCG Campaign				
Miss Kroyer	BCG Campaign				
Miss Hiedenberg	BCG Campaign				
Dr. M. O. T. Iyengar	1st Visit, Filariasis Control	—	1,674	nil	Expenditure met from Head 88, Vote 2, Sub-head 3
1949–50					
Dr. J. B. McDougal	T. B. Work	292	—	292	
Dr. Lauritzen	T. B. Work	76	—	76	
Mr. W. V. Fenn	UNICEF Chief of Missions for Pakistan	—	—	3,637	Expenditure to be met from an allocation of Rs.15,400 applied for from S/D and E. A.
Dr. (Miss) Orkney	Representative from W. H. O.	—	—	—	
Prof. Leiby	Adviser on V.D.	750	25	652	
			9,627		

VII—MEDICO-LEGAL WORK

The general set up for Medico-legal work in the Island is the same as that outlined in the previous year's Report.

Occasionally, the Judiciary orders the Judicial Medical Officer, Colombo, to examine witnesses as to their medical fitness to attend Courts. All post-mortem work (including exhumations, post-mortem examinations ordered by outstation Magistrates) and the examination of specimens is done by him. The Assistant Judicial Medical Officer examines persons referred to him by the Police and furnishes reports to them. All Technical Laboratory Work is carried out in the Forensic Medicine Laboratory of the University.

The staff of the Judicial Medical Officer is as follows:—

Judicial Medical Officer,
Assistant Judicial Medical Officer,
A Chemist,
A Clerk,
A Stenographer,
A Dressing Attendant,
An Office Orderly,
A Peon, and
Two Post-Mortem Labourers.

The Chemist who was appointed in November, 1949, is still undergoing training.

Buildings

No special office and laboratory have yet been provided for the J. M. O., Colombo, by the Medical Department. The construction of a Central Medico-Legal Mortuary with modern facilities for the storage of dead bodies and with a gallery to accommodate 100 students in the Inquest Room and suitable accommodation for the staff, &c., has been decided on and a site has been selected on the premises of the General Hospital which will not be available until the new wing of the Nurses' Training School and quarters is completed to enable the demolition of an old building which stands at present on this site and accommodates some of the Nurses.

As in previous years the J. M. O's duties consist mainly in making post-mortem examinations occasionally after exhumations. 509 post-mortem examinations were carried out by the J. M. O. Colombo. Of these 26 were cases of alleged Homicide; one was a case of Infanticide; 37 were cases of Suicide; 168 were cases of Accidental Death and 277 were deaths due to Natural Causes. In these are included 4 exhumations carried out by him at the request of outstation Magistrates.

During the year, 246 productions in Judicial Cases were sent for examination from the Courts of Law of the Island. Out of these 33 were production of hair sent for Microscopic Examinations; 155 were productions for ascertaining the Blood Group and 58 were miscellaneous productions such as human vicera, bones, &c., for Pathological Examinations. The Assistant J. M. O. examined 5,058 cases of Assault and Injury. Of these 866 were cases of Grievous Hurt; 4,192 were cases of Simple Hurt and these included 470 cases of injuries caused by a sharp weapon. In all these cases reports were furnished to the Police Authorities Those able to present themselves in Office are examined at the J. M. O's Office where X-Ray facilities are available, and those admitted to Hospitals are examined by the A. J. M. O. once the Police informs him of the exact location of Hospital, Ward, &c. Patients in Judicial Cases are daily admitted to the General Hospital, and it is a daily routine for the A. J. M. O. to visit the Hospital.

During the year, Medical Officers in outstations made 1,292 Post-Mortem Examinations which included 408 cases of accident, 238 of suicide and 286 of homicide. A total number of 5,987 assault cases which included 1,335 cases of grievous hurt was examined during the year. 396 other cases including 80 cases of rape were also examined by the Medical Officers at outstations.

VIII—RADIOLOGY

Considerable progress has been made during the period under review in providing increased facilities for Radiology, Radiotherapy, Curie Therapy (Radium), Physiotherapy and Electro-Medical Diagnosis in our hospitals and other medical institutions in the Island. While the circumstances associated with restricted supplies of equipment obtainable from manufacturers in America had eased considerably, a new difficulty has now presented itself consequent on devaluation. This is a situation, which will no doubt call for extreme caution in making requests for equipment from hard currency areas. Wherever possible the probability of obtaining equivalent apparatus from countries in the sterling bloc will be investigated and recommended if suitable.

The sets of apparatus received in the financial year 1948-49 have been made good use of. Many of our hospitals and institutions now possess modern equipment of increased flexibility.

GENERAL HOSPITAL, COLOMBO

X-Ray Diagnostic Section

The conversion of the vacated Out-Patient Department building into the new Radiological Block is nearing completion. It is expected that it will be available for occupation in a short time. This building will accommodate the X-Ray Diagnostic Section and the Physiotherapy Department. Most of the equipment and apparatus required are available and only await installation. There is a full complement of staff to enable work to commence in the new block without any difficulty. Every effort has been made to ensure that requirements in this section conform to international regulations.

X-Ray Therapy and Radium Department

The X-Ray Therapy and Radium Department is functioning satisfactorily. The three apparatus installed here are being put to extremely heavy use owing to the increasing requests made by those seeking treatment for Cancer and other malignant and associated conditions, with Deep Ray. An apparatus for Contact and Cavity Therapy, which is expected very shortly will probably relieve these over taxed machines only to a very small extent. Money provision was made in the Financial year 1949-50 for an additional apparatus. A requests for two more similar instruments have been asked for in the Financial year 1950-51. Extensions to the present building for additional accommodation both for these apparatus and the patients attending this department will be necessary. The Medical and Technical staff have been strengthened by the appointment of one Medical Officer, and three X-Ray Assistants. In addition, another Medical Officer is due to be appointed soon. Investigations falling within the category of research and the anticipated problems of increased work, necessitated further appeals for Medical and Technical Assistance, which have already been made. The Cancer problem, which is chiefly connected with the activities of this Department, is receiving every possible consideration. An organized scheme for the control, prevention, treatment and follow-up of cases is operating satisfactorily. Intensive propaganda through the Press, Radio, and Talks is being pushed ahead with all the necessary drive by the personnel working here and by the voluntary organization known as the " Friends of the General Hospital Cancer Clinic ".

Anti-Tuberculosis Institute, Pettah

A new X-Ray Apparatus has been installed, which is working quite satisfactorily. A Vertical Roentgenoscope, which was received lately will be set up soon. When this apparatus is in working order it will minimize to a very great extent the excessive strain thrown on the new plant. A saving in expensive photographic material will also be effected by the facilities the Roentgenoscope will provide for visual examination.

The Chest Clinic, Darley Road

There is available in this institute a modern X-Ray Apparatus of conventional design for routine use. A mass Radiography apparatus for T. B. Surveys, which was installed recently is now functioning. As far as Radiological requirements are concerned, this institute can be said to be well equipped.

Civil Hospitals at Kandy, Galle and Jaffna

The obsolete equipments hitherto used for X-Ray Diagnosis have been replaced by modern equipments affording favourable working conditions for the most complicated radiological procedures. Apparatus for X-Ray Therapy, Electro-Cardiography, Electro-Therapy and Clinical Photography, for which financial provision has been made will be obtained in time and accommodated in the specially planned building, that will be put up for each of these hospitals. The need for qualified Radiologists to each of these institutions must be stressed if the Cancer Therapy Departments at these centres are to function efficiently. A request for another high-powered diagnostic unit and a portable X-Ray set for bed-side work for each of these institutions is also being considered. The question of making available a quantity of radium will be gone into as soon as the Cancer Departments at these hospitals are equipped and staffed.

Civil Hospital at Kurunegala, Ragama Chest Hospital and Chest Hospital, Welisara

The low-powered units at these hospitals have now been replaced by up-to-date apparatus incorporating features for radiological work of all types. The Civil Hospital, Kurunegala, has in addition been allowed the use of their displaced apparatus, which has been converted and commissioned for bed-side use in the wards. It may be necessary to consider the question of providing Roentgenoscopes at the two Chest Hospitals as in the case of the Anti-Tuberculosis Institute, Colombo. If funds are made available in the ensuing financial year, as asked for, these institutes could be so equipped.

Civil Hospital, Kankesanthurai

A new X-Ray plant has now been installed. Patients from the T. B. Hospital, Kankesanthurai, are also served with X-Ray facilities as a consequence. The inconvenient arrangement of sending X-Ray cases from these hospitals to the Civil Hospital, Jaffna, does not now arise.

Civil Hospital, Badulla and T. B. Hospital, Puttalam

An apparatus is available and is due for installation at each of these institutions. At the former hospital certain structural alterations are being carried out to the existing X-Ray Departments, which when completed will enable the installation of the apparatus to be proceeded with. At the latter institution a new department is being put up according to a type plan approved for district hospitals. The installation will be taken up as soon as the building is completed.

Mental Hospital, Angoda

An X-Ray Apparatus displaced from one of the hospitals, where a new unit was installed, has been made available, after reconditioning, for use in this institution. As the calls for X-Ray Examinations are not likely to be heavy, this apparatus will meet immediate requirements. The line supply for the plant has not yet been given. The apparatus will be put into commission as soon as the Electrical Department has complied with our request for a power supply.

New Proposals

Certain new proposals have been made as regards X-Ray and other equipment and buildings for a number of hospitals. The setting up of X-Ray Departments for the hospitals at Anuradhapura, Batticaloa, Kandana, Puttalam, Mannar, Kegalla, Ratnapura, Hambantota, Chilaw, Nuwara Eliya, Gampaha, Nawalapitiya, Balapitiya and Gal-Oya is under consideration. Financial provision was made for ten hospitals in the financial year 1949-50. The apparatus when received will be distributed after due consideration is given to the individual needs of each hospital. At most of these stations accommodation is not available for setting up a department. In such cases buildings according to a type plan already approved will have to be put up. At some hospitals such model departments are already in the course of construction. The aim is to provide the ideal building referred to before obtaining the equipment, or indenting for them in good time to be available here when the buildings are ready.

These proposals also include our obtaining at least one Mobile Mass Radiography apparatus for an Islandwide T. B. Survey and equipment for the newly organized Physiotherapy Department at the General Hospital, which is now in charge of a qualified Physiotherapist from Vienna. If they are approved every endeavour will be made to obtain the equipment as early as possible, if our efforts at obtaining the necessary accommodation and staff in time are successful.

A serious defect that had existed for many years and which had been the cause of a recurring loss of expensive material, a waste of time and inconvenience to patients and doctors, will be eliminated when the X-Ray processing units operated electrically, which are being installed, are ready for use. Each hospital will have such a unit installed in the near future. By processing the films in chemicals at a temperature electrically refrigerated and controlled at a working temperature of 65°F, all the ills experienced in the processing room, will undoubtedly be overcome. The further facility of having the finished radiograph dried and ready for inspection after being treated in an electrically operated film-drying cabinet is also being provided for every hospital. Numerous other requirements, though of a minor nature, have not been lost sight of in investigating any particular request of a hospital or institution. Wherever possible the demands have been met after careful consideration.

Servicing and Maintenance of Equipment

The Technical and Engineering Division of the Department of Radiology, which is responsible for the installation, maintenance, servicing, calibration and repairs to all equipment in Government hospitals and institutions, has carried out its work with efficiency. Some of the new installations, which were personally inspected by the manufacturers' engineers have been highly commended by them, as having been extremely well executed. The transference of the responsibility for the installation of new apparatus from manufacturers' representatives in India to our own technical staff has already resulted in a saving of about Rs. 20,000 on the equipments so far installed. The staff of this section is being strengthened by the appointment of an X-Ray and Electro-Medical Technologist, a Foreman—X-Ray and Electro-Medical Appliances and other minor staff. The volume of work involved is now necessarily heavy.

IX—CIVIL MEDICAL STORES

The present acting Superintendent of Civil Medical Stores (Mr. V. Kandiah) assumed duties on October 1, 1949. The work at this establishment has enormously increased in volume during the last few years without a corresponding increase in the facilities provided. At present there is great shortage of staff and storage accommodation which add to the difficulties of administration.

Requisitions

A comparative statement of the number of requisitions received for compliance is appended below:

1946-47		*1947-48*		*1948-49*
23,950	...	29,734	...	31,763

The cost of drugs, &c., issued to Estates for the three years is as follows:—

1947		*1948*		*1949*
Rs. *c.*		*Rs.* *c.*		*Rs.* *c.*
253,394 35	...	266,470 47	...	311,045 86

Despatch

A comparative statement of the number of packages despatched from the Civil Medical Stores for a period of three years is as follows:—

1946-47		*1947-48*		*1948-49*
20,771	...	31,886	...	39,506

Staff

The staff of this institution consisted of—

1 Acting Superintendent.
1 Acting Assistant Superintendent.
1 Assistant Probationary Superintendent.
1 Assistant Medical Storekeeper.
30 Clerks (one in E. C. C., Grade I, 3 in E. C. C., Grade II, 19 in G. C. C. and 7 Temporary Clerks).
7 Section Storekeepers.
10 Assistant Section Storekeepers.
1 Foreman.
1 Book Binder.
3 Peons, 1 Messenger and 1 Cycle Orderly.
43 Packers.
3 Tinkers (2 permanent and 1 temporary).
16 Carpenters (permanent and temporary).
11 Watchers (daily-paid).
84 Labourers (38 permanent and 46 temporary).

For the efficient working of the Civil Medical Stores three conditions are most important:

(1) Availability of drugs and instruments.
(2) Adequate staff to handle the increasing volume of work.
(3) Sufficient store room to stock larger supplies received on indents.

X—MEDICAL BUILDINGS

The building programme of the Medical Department during the year could be classified under the following categories:—

(1) New Medical Institutions.
(2) Extensions, additions and improvements to existing institutions.
(3) Quarters for Medical staff.
(4) Central Dispensaries.
(5) Maternity Homes.
(6) Rural Hospitals.

New Medical Institutions

(*a*) *Second Maternity Home—Castle Street, Colombo:*

Work commenced in 1947. Major portion of the building programme of the 1st stage was completed during the year. The Nurses' Quarters and quarters for midwives and stipends remained to be completed.

(*b*) *Kalutara New Hospital :*

The work on this scheme, which was interrupted by the War, was re-commenced. Construction of three ward blocks, maternity ward, operating theatre, kitchen and Nurses' quarters was undertaken.

(*c*) Sites for new hospitals at Kegalla, Panadure and Ratnapura were selected.

(*d*) *Uragaha Leprosy Hospital :*

Work on 12 cottages of this scheme was commenced.

Extensions, Additions and Improvements of Existing Institutions

Several improvement schemes were either in progress or were newly undertaken during the year. Some of the more important items are referred to below:

(*a*) *Malaria Field Training Centre, Kurunegala :*

Construction of a new administration block and a laboratory was undertaken and was almost completed by the end of the year.

(*b*) *Branch Hospital, Ragama :*

Much progress was made in this connection. The greater portion of the quarters for staff was completed and the construction of wards commenced. Two ward blocks and kitchen were taken in hand for construction during the year.

(*c*) *Children's Hospital, Colombo :*

Work on this was continued and reached a stage near completion.

(*d*) *New O. P. D. and Kitchen, Jaffna Hospital :*

Work on the buildings was completed but the fitting up of the kitchen is held up owing to non-arrival of equipment.

(*e*) The following items were completed:—

New Maternity Ward and Isolation Ward at Batticaloa Hospital;
New I. D. H. at Anuradhapura;
New Maternity Ward at Ittapana Cottage Hospital;
New Maternity Ward at Nuwara Eliya Hospital; and
New Female Ward at Kuliyapitiya Hospital.

(*f*) New Kitchen at Kandy Hospital was completed but the opening is held up owing to non-arrival of equipment.

(*g*) Work on the following items was begun:—

New Kitchens at Galle, Matara and Negombo Hospitals;
New Maternity Wards at Badulla and Karawanella Hospitals; and
X'Ray blocks for Kandana, Puttalam, Kankesanturai and Ragama Hospitals.

(*h*) Extensions to Orthopaedic Clinic, Colombo;

A blacksmith's shop was completed. Work on gymnasium and workshop was begun and was well on way towards completion.

(*i*) Major alterations to General Hospital, O. P. D. Clinics. These were commenced and were nearing completition.

(*j*) Ambulance Garages:

18 of the 24 undertaken were completed.

(*k*) Complete re-roofing of 3 wards in Regent Street Section of General Hospital was undertaken and two were completed.

(*l*) Extensions to Deniyaya Hospital, Maternity Ward were undertaken.

(*m*) Large scale improvements to water supply schemes to Welisara Chest Hospital and Kankesanturai Civil Hospital and to Sewerage Scheme latter institution were sanctioned.

(*n*) Electric lighting schemes for Deniyaya, Giriulla, Madulsima and Homagama Hospitals and Ja-ela and Minuwangoda Rural Hospitals and Sandalankawa Maternity Home were undertaken and lights have been provided to three of the places.

(*o*) Funds have been provided for a new operating theatre for Kurunegala hospital and for extensions to Maternity Ward of Balapitiya Hospital and work will be put in hand as soon as detailed plans are finalised.

(*p*) Plans for new Nurses' quarters and storeyed ward for General Hospital, Colombo, were under preparation.

Quarters for Medical Staff

Quarters for medical officers at Kandana, Horana, Ragama Chest Hospital, Welisara Chest Hospital, Vavuniya, Kurunegala Hospital, Quarters for Woman Medical Officer at Kalmunai, Quarters for Medical Officers of Health at Walasmulla and Dehiowita, and Quarters for Nurses at Watupitiwela Hospital were completed. Work on Medical Officers' quarters for Wathupitiwela, Dompe, Giriulla and Mantivu was held up owing to difficulties in selecting suitable sites.

New Central Dispensaries

This scheme, which was commenced in 1946/47 was continued and ten new central dispensaries were sanctioned for the year. Work on those sanctioned earlier was continued and the following Central Dispensaries were completed and occupied during the year:—

(1) Thunakai.
(2) Erukkalampiddi.
(3) Galkiriyagama.
(4) Vakarai.
(5) Owilakanda.
(6) Gallewewa.
(7) Varany.

Maternity Homes

Here too ten new homes were sanctioned in October, 1949, and preliminary work, such as selection of sites, was taken in hand in the remaining months of the year. Work on those sanctioned in the previous years was continued and nine new Maternity Home buildings were completed and occupied during the year. They are:—

(1) Kandanagedera.
(2) Palatuduwa.
(3) Deeville.
(4) Ovilikande.
(5) Dankotuwa.
(6) Mankulam.
(7) Veyangoda.
(8) Piliyandala.
(9) Welipitiya.

Rural Hospitals

The following Rural Hospital buildings were completed and opened:—

(1) Galapatha.
(2) Kokarella.
(3) Godakawela.
(4) Gonaduwa.
(5) Imaduwa.
(6) Midigama.
(7) Pallai.
(8) Wellawaya.
(9) Siyamgalanduwa.
(10) Bibile.

Major Schemes

Scheme	*Location*	*Estimated Cost* Rs.	*Remarks*
Second Maternity Home ...	Castle Street, Colombo ...	1,500,000 ...	Work in progress.
Children's Ward ...	Lady Ridgeway Hospital, Colombo ...	750,000 ...	Work in progress.
Branch Hospital ...	Ragama ...	2,000,000 ...	Work in progress.
New Hospital	Kalutara ...	960,000 ...	Work in progress.
	Additions and Improvements		
New O. P. D. and Kitchen ...	Jaffna Hospital ...	400,000 ...	Building completed. kitchen equipment on order.
Maternity Ward and Isolation Ward	Batticaloa Hospital	320,000 ...	Completed.
Quarters for M. O. ...	Kandana Sanatorium	28,925 ...	Completed.
Quarters for M. O. ...	Horana Hospital ...	30,000 ...	Completed.
Two Quarters for Medical Officers	Ragama Chest Hospital ...	58,000 ...	Completed.
Two Quarters for Medical Officers	Welisara Chest Hospital ...	58,000 ...	Completed.
Quarters for M. O. and Nurses' Quarters	Wathupitiwela Hospital ...	75,000 ...	Nurses' Quarters completed. M. O's Quarters held up owing to site difficulties.
Apothecary's Quarters ...	Pussellawa Hospital	20,000 ...	Completed.
M. O's Quarters ...	Vavuniya Hospital	35,000 ...	Completed.
Quarters for M. O. and Apothecary	Giriulla Hospital ...	47,000 ...	Construction held up owing to site difficulties.
Two Quarters for House Officers	Kurunegala Hospital	92,000 ...	Completed.

W. M. O's Quarters	Kalmunai	28,000	Completed.
Quarters for M. O.	Mantivu Leprosy Hospital	55,000	Construction held up owing to site difficulties.
Quarters for M. O. H.	Walasmulla Hispital	35,000	Completed.
Quarters for M. O. H.	Dehiowita	35,000	Completed.
Maternity Ward	Buttala Hospital	32,703	Nearing comlpetion.
Kitchen	Kandy Hospital	—	Building completed. Kitchen equipment on order.
I. D. H.	Anuradhapura	25,000	Completed.
Maternity Ward	Ittapana Hospital	35,000	Completed.
Maternity Ward	Nuwara Eliya Hospital	75,000	Completed.
Leprosy Hospital	Uragaha	330,000	Work in progress.
Gymnasium Workshop and Blacksmith's shop to Orthopaedic Clinic	General Hospital, Colombo	150,000	Work in progress.
Kitchen, Maternity Ward and acquisition of land	Galle Hospital	460,000	Work on kitchen and acquisition in progress.
Administration Block, Kitchen and Wards	Negombo Hospital	600,000	Work on kitchen in progress.
Maternity Ward	Badulla Hospital	280,000	Work in progress.
Operating Theatre, Ward and Administration Block	Jaffna Hospital	1,500,000	Plans for the ward finalised. Plans for other two items under preparation.
Religious Sisters' Quarters	Welisara Hospital	750,000	Plans finalised.
Storeyed Ward and Nurses' Quarters	General Hospital, Colombo	3,000,000	Plans under preparation.
Kitchen	Matara Hospital	100,000	Work in progress.
Administration Block and Laboratory	Kurunegala Malaria Field Training Centre	130,000	Nearing completion.
Quarters for 2 House Officers, 2 Apothecaries, Laboratory Assistant, Clerk and X'Ray Technician	Kankesanturai Civil Hospital	150,000	Plans finalised.
Mental Hospital	Pelawatte	325,000	Nearing completion.

XI—AMBULANCE SERVICE

The Hospital Ambulance Service was started in 1926, with two Ambulances attached to the General Hospital, Colombo. The number was increased to three in 1944. During the Financial Year 1945-46 one ambulance each was supplied to the hospitals at Galle, Jaffna and Anuradhapura. During 1947-48, twelve ambulances were supplied to other provincial and major district hospitals.

The year 1949, saw the arrival of 25 more ambulances and practically every major district hospital has been supplied with an ambulance. 24 more ambulances are expected in 1950 and with the arrival of these, an efficient ambulance service throughout the Island will be established.

The object of the Department is to establish throughout the Island a service which, with the aid of telephone facilities, will provide quick and safe transport for the sick from their homes to the smaller hospitals or from the latter to the larger hospitals.

Accordingly the Hospital Ambulances will be available for the transport of the following types of cases:—

(*a*) Cases of serious illness from the smaller hospitals, Maternity Homes Dispensaries to the District Hospital or, subject to the approval of the Officer-in-Charge, direct to the Provincial Hospital.

(*b*) Similar cases from the District to the Provincial Hospital.

(*c*) Serious Maternity cases within the area served by the ambulance to the nearest hospital, when summoned by a Government Midwife.

(*d*) Chronic or convalescent cases from the major institutions to special institutions intended for such cases.

(*e*) Maternity cases after delivery in hospital to their homes if considered necessary by the Officer-in-Charge for any special reason.

(*f*) Cases of serious injury, within the area served by the ambulance to the District Hospital when summoned by an Officer-in-Charge of a Police Station or by a District Revenue Officer.

(*g*) Serious cases of illness within the area served by the ambulance to the District Hospital or, subject to the approval of the Officer-in-Charge of the ambulance, to the Provincial Hospital, when summoned by private parties, Chairman of Local Government bodies and Medical Practitioners.

(*h*) Transport of communicable disease when they occur in Government institutions.

Transport is free to patients whose monthly income is not more than Rs. 83.33 per mensem and on payment to others. Persons summoning the ambulance under para. (*g*) above are required to pay either the hire in advance or have their names registered at the District Hospital on payment of a deposit of Rs. 50 which is renewed as it gets expended. The hire is Rs. 10 per trip or Re. 1 per mile whichever is greater.

DISTRIBUTION OF AMBULANCES

No.	*Station*	*Year 1948/1949*
1.	Anuradhapura	1
2.	Avissawella	1
3.	Badulla	1
4.	Balangoda	1
5.	Balapitiya	1
6.	Batticaloa	1
7.	Chilaw	1
8.	Dambulla	1
9.	Deniyaya	1

No.	Station	Year 1948/1949
10.	De Soysa Maternity Hospital	1
11.	Galle	2
12.	Galoya	1
13.	Gampaha	1
14.	General Hospital, Colombo	4
15.	Haputale	1
16.	Hambantota	1
17.	Jaffna	2
18.	Kalutara	1
19.	Kandy	2
20.	Karawanella	1
21.	Kegalle	1
22.	Kurunegala	1
23.	Kilinochchi	1
24.	Mannar	1
25.	Matara	1
26.	Mental Hospital, Angoda	1
27.	Mullaitivu	1
28.	Nawalapitiya	1
29.	Negombo	1
30.	Nuwara Eliya	1
31.	Polonnaruwa	1
32.	Point Pedro	1
33.	Ratnapura	1
34.	Tangalle	1
35.	Trincomalee	1
36.	Vavuniya	1
37.	Wathupitiwela	1
	Total	43

XII—TRAINING

(i) SPECIAL COURSES

Medical Officers.—Fifteen Medical Officers proceeded on study leave during the year to obtain specialist qualifications. Of these two were sent to Delhi University to specialise in Tuberculosis while the rest entered medical schools in the United Kingdom.

Seven Medical Officers of Health were also sent to obtain the Diploma in Public Health.

The following officers on study leave obtained specialist qualifications noted against their name during the year:—

Dr. J. Gulasekeram	D. B. (London)
Dr. E. W. Illangatilleke	M. R. C. O. G. (Gr. Br.)
Dr. D. A. Ranasinghe	M. R. C. O. G. (Gr. Br.)
Dr. A. Sinnathamby	M. R. C. O. G. (Gr. Br.)
Dr. S. Balasingham	M. R. C. P. (London)
Dr. J. R. Wilson	M. D. (London), M. R. C. P. (London)
Dr. N. Ponnambalam	M. D. (London)
Dr. S. Fernando	M. B. B. S. (London)
Dr. G. S. Ratnavale	M. B. B. S. (London)
Dr. W. D. Ratnavale	M. B. B. S. (London)
Dr. P. Sivasubramaniam	D. O. M. S. (England)
Dr. K. Vythilingam	D. O. M. S. (England)
Dr. R. C. J. Rustomjee	F. R. C. S. (England) in Otolaryngology
Dr. A. F. S. Perera	D. C. H. (England)
Dr. (Mrs.) G. R. Barr-Kumarakulasinghe	D. C. H. (England)
Dr. E. H. Mirando	D. C. H. (England)
Dr. D. A. Kuruppu	D. P. H. (London)
Dr. L. B. de Lanerolle	D. P. H. (London)
Dr. C. Rajaratnam	D. P. H. (London)
Dr. P. K. Ratnasingham	D. P. H. (Toronto)
Dr. E. Marasinghe	M. P. H. (Harvard)
Dr. W. A. Karunaratna	M. D. (London) in State Medicine
Dr. A. P. Sandrasekera	F. R. C. S. (England)
Dr. N. K. G. Mendis	D. T. D. (Delhi)
Dr. F. D. Wijesinghe	D. T. D. (Delhi)

Local Courses of Traning.—Six Medical Officers in Grade II, completed a year's post-licentiate course conducted by the University of Ceylon in June and a further batch of seven officers started on the course in July, 1949.

Matrons, Nurses and Midwives

1. *Principal Matron.*—Steps were taken to make provision in 1950 to send the Officer who was appointed as Principal Matron in the Department, to U. K. or America for a post graduate course of training to enable her to gain experience in post graduate work.

2. *Tutorial Staff.*—Owing to the acute shortage of suitably trained tutorial staff locally for the training of Pupil Nurses, provision was made in the estimate to send six more girls for B.Sc. Degree course in Nursing, and two Sisters for the Sister Tutor's course in India in 1950. One Sister was selected and sent for the latter course in July this year.

3. *Masseuse and Masseurs.*—Provision was made to send an additional Masseuse and two Masseurs for training in U. K. in 1950 but since the appointment of a Viennese Specialist, Dr. Neuhuber, as Physiotherapist, it was decided not to send candidates abroad for this training.

4. *Sisters.*—Provision was made for training of a female candidate in X'ray work in U.K. in 1950.

Sixteen nurses selected from those in service are undergoing a post-graduate course of training with a view to qualifying themselves as Nursing Sisters.

5. *Religious Sisters.*—Nine local Religious Sisters have been sent to the Nurses' Training School, Colombo, by the Archbishop of Colombo to undergo a three-year course of training similar to that of the Pupil Nurses. They will be appointed to the Nursing Staff on successful completion of this training.

6. *Nurses.*—Of the Pupil Female Nurses who were undergoing training, 68 English-speaking and 116 Swabasha Nurses qualified for appointment as Nurses at the end of the year.

At the end of the year there were 195 English speaking and 91 Swabasha Nurses undergoing the three-year course of training in addition to 14 Pupil Male Nurses. A batch of 30 English speaking Pupil Nurses was also ordered to report for training on January 1, 1950, at the Nurses' Training School, Colombo.

7. *Assistant Nurses.*—150 Pupil Assistant Nurses were selected to undergo the shorter course of 18 months and of these, 60 were admitted to the training class in July and 50 were ordered to report for training on January 1, 1950. The remaining pupils were noted for admission early next year, as no accommodation was available in the Training School.

8. *Public Health Nurses.*—One Nurse who was undergoing training since July, 1948, completed her training during the year and was appointed Public Health Nurse.

In addition 10 Nurses were admitted to the training class for Public Health Nurses which commenced in January and July. Two of them, who are already trained in midwifery, completed their training and were appointed Public Health Nurses. The remaining 8 have completed their six months training at the Health Unit, Kalutara, and are undergoing their training at the De Soysa Maternity Hospital, Colombo. Another batch of 11 Nurses was selected for training for the class commencing on January 1, 1950.

9. *Senior Tutor* (*Public Health*).—A post of Senior Tutor (Public Health) was created for Special Grade Public Health Nurses and and the officer appointed was in charge of the training of Public Health Nurses and Midwives at the Health Unit, Kalutara.

10. *Midwives.*—A total of 217 candidates were admitted during the year to the training class for midwives. 141 pupils completed the Field Training satisfactorily and were appointed as midwives in the Department.

Research Officers.—Mr. M. C. Karunairatnam, B.Sc. (Hons.), London, Research Officer, Medical Research Institute, is doing research work at the University of Edinburgh for the Ph.D. since October, 1949, on a University of Ceylon scholarship. He is due back in 1951.

Mr. G. S. Wijesinghe, B.Sc. (Hons.) London, Research Officer, Medical Research Institute, is doing research work at the University of Cambridge for the Ph.D. since October, 1947, on a departmental scholarship. He is due back in 1951.

Psychiatric Social Worker.—Miss D. D. P. B. Perera is undergoing a training at the London School of Economics and Political Science for appointment as Psychiatric Social Worker. She completed the two year course in Social Science in June, 1949, and is now following the 10½ month course in Mental Health. She is due back before the end of 1950.

Probationary Assistant Superintendent, Civil Medical Stores.—A chemistry graduate is undergoing a three year course in the University of London to obtain the B.Pharm. Degree which will qualify him for appointment as Assistant Superintendent. He is at present in the second year of his course, having started in October, 1948.

Workshop Technician.—The workshop technician has returned after a fifteen month training in the manufacture and fitting of artificial limbs and is now in charge of the workshop of the Orthopaedic Clinic at the General Hospital, Colombo.

Ward Attendants.—A training class for Ward Attendants is held once a year. Candidates were admitted to the training class in order of merit on the results of a competitive examination and an interview. The number of candidates admitted to the Training Class is 300, viz., 150 males and 150 females. The training classes are held at the General Hospital, Colombo, and Civil Hospitals, Kandy, Galle, Kalutara, Kurunegala and Jaffna. The period of training is for one year at the end of which a final examination is held and the successful candidates are appointed to the various hospitals in the Island.

Sanitary Inspectors.—Two training classes for Sanitary Inspectors were held in 1949 at the Health Unit, Kalutara. The first training class for the year commenced in January and was completed in June. 33 Sanitary Inspectors who were trained during the period were successful at the final examination held in Colombo by the Local Board of Examination of the Royal Sanitary Institute, London. All were given appointments in August, 1949. The second training class which commenced in July was completed in December, 1949. 33 were trained and all were successful at the final examination.

Civilian candidates who have passed the Senior School Certificate Examination were selected for training after a competitive examination held by the Department of Education. Ex-Servicemen who have been granted concessions in age and qualifications were selected at an interview.

(ii) PUBLIC HEALTH TRAINING

Kalutara Health Unit.—The Kalutara Health Unit is the chief training centre for Health Personnel in the Island. This Unit has been responsible for working out standards for various phases of Public Health activities and has been held in high esteem even by distinguished foreign Health Officers.

Government Officers from various other departments as well as officers of the Medical Department, Under-graduates and Post-graduates of the Ceylon University, and members of unofficial agencies, such as the Lanka Mahila Samithiya, receive training at this centre.

The following is a tabulated statement of Officers trained during the course of the year:—

Particulars	*Number*
Medical Officers	31
Post-licentiates	5
Public Health Nurses	11
Sanitary Inspectors (Refresher Course)	56
Medical Undergraduates	73
Sanitary Learners	66
Health Unit Midwives	72
Gramasevikas of the Lanka Mahila Samiti	101
Probationary Divisional Revenue Officers	10

Medical Officers.—The course of training for Departmental Medical Officers who eventually get posted as Medical Officers of Health in various parts of the Island extends for one month. A month's course of training is given at the Health Unit, Kalutara, to Medical Officers who have completed their period of internship at a major hospital before serving on the Health Side of the Department for a period of about two years.

These officers are in addition to the permanent cadre of Medical Officers of Health.

The course as in previous years consisted of lectures, discussions and seminar classes in all phases of public health: Public Health Administration, Vital Statistics, Epidemiology, General Sanitation, Maternity, Infant and Pre-School Hygiene, School Health Work and Health Education. They are also given practical training in these subjects in the field.

Medical Under-graduates.—Seventy-three fourth year Medical Students from the Faculty of Medicine, Ceylon University, spent the month of May in residence at the Public Health Students' Hostel. This procedure no doubt will have a very great bearing on the medical profession in the future. It will help in no small measure to dispel the aversion among young Medical Officers for Public Health work.

Probationary Divisional Revenue Officers.—Ten Probationary Divisional Revenue Officers were given a two weeks training in General Public Health work during the year.

Health Unit Midwives.—Every three months batches of Health Unit Midwives finish their field training at this Unit. The first batch who reported for training at the beginning of the year were those who had their preliminary training in the field either at the Kotte-Kolonnawa or the Dehiwala Health Unit.

The preliminary training in the field at the above centre was suspended and pupils were sent here direct from the De Soysa Maternity Hospital for Health Unit training from April 1, 1949. The examinations are held at the end of every three months. The results of these examinations have been satisfactory.

All instructions to the pupils are given in the Vernacular.

Gramasevikas of the Lanka Mahila Samitiya.—Women Voluntary workers of the Lanka Mahila Samitiya received a ten day field training, particularly in Maternity and Child Welfare. 101 Volunteers were trained during the year.

Panadura Health Unit.—During the year 1949 there were 104 pupil midwives in training. Of these 35 are due for their final examination in March, 1950. Two pupils failed during the year and were deferred for a further three months.

There is also a marked deterioration in the physical standard of these recruits. A general lethargy is characteristic of the classes. Dental Caries, Anaemia and Septic Tonsils being predominant defects.

As the groups are again getting large, the housing situation leaves much to be desired.

Since the issue of standard sarees to the midwives was discontinued the classes are lacking in smartness of appearance. It is desirable that the issue of sarees should be re-introduced and that they be provided with foot wear as well.

Malaria Field Training Centre, Kurunegala.—Statement of Personnel trained in this Institution during 1949 are as follows:—

Designation of Trainees	*Length of each class*	*Number of Trainees*
Post-graduate Medical Officers	1 week	6
Divisional Revenue Officers	1 week	10
Sanitary Inspectors	3 weeks	19
Sanitary Learners	1 week	65

XIII—HEALTH EDUCATION AND PUBLICITY

A feature of the work during 1949 were the special campaigns carried out in connection with B. C. G. Vaccination, Filariasis, Venereal Diseases and Cancer. In the case of the first three the visits of the W. H. O. Experts were made the occasion for intensive publicity, while in the case of Cancer, a special " Cancer Week " was organized by the " Friends of the Cancer Clinic ", at the General Hospital, Colombo.

As usual the Health Education and Publicity work of the Department is carried out on well organized lines, there being three important divisions of the work:—

(*a*) Health Education of the School Child;
(*b*) Health Education of the Masses, and
(*c*) Health Education of the Professional worker.

Health Education work in schools is carried out with the co-operation of school teachers and the supervising officers of the Departmnt of Education. To ensure uniformity of method the Department of Medical and Sanitary Services has evolved a scheme of Health Education Procedures for use in all schools in the Island. There are 8 School Medical Officers and 9 School Health Nurses specially engaged in this work in the principal towns, while in other areas the work is done by the Medical Officers of Health assisted by the Public Health Nurses and Sanitary Inspectors.

Health Education of the Masses is carried out by means of the Press, Radio, Cinema, Public Lectures, Group Talks, Posters, Leaflets, and Health Exhibitions, while as a routine measure Health Education work is carried out by Medical Officers of Health at Clinics and by Public Health Nurses, Sanitary Inspectors and Public Health Midwives both at Clinics and during their house to house visits.

The following table indicates the nature of work done by Medical Officers of Health throughout the Island during the year:—

Lectures	*Number*	*Attendance*
With Lantern	562	174,938
Without Lantern	3,175	333,141
With Cinema	572	123,333

Talks	*Number*	*Attendance*
School Talks	18,696	2,125,706
Village Talks	55,371	851,533
Clinic Talks	27,459	419,263

Health Demonstration Vans

There are two well-equipped Health Demonstration Vans that tour the Island holding Health Demonstrations. These are in charge of two Sanitary Inspectors and are fitted with exhibits on General Sanitation, Malaria, Nutrition and the Control of Communicable Diseases. They work according to fixed programmes in the areas of the various Medical Officers of Health. Local Exhibitions and Demonstrations, specially to school children, are held and lantern lectures and group talks are given.

The following is a summary of work done by the two Health Demonstration Van during th year under review:—

No. of Exhibitions held	48
No. of Demonstrations	3,24
Attendance	179,61
No. of Lantern lectures given	38
Attendance	156,4

All Ceylon Health Week

The All Ceylon Health Week, which has been organised to make the masses health conscious and obtain their co-operation in the various health activities of the Department, has been held regularly for the last eleven years. This year's Health Week was held from 14th to 20th August, in 90 Centres throughout the Island. The week's programme, which was adapted to suit the requirements of each area was as follows:—

Sunday,	14th August, 1949 ...	General Propaganda.
Monday,	15th August, 1949 ...	Clean-up Campaign. Filariasis in areas where it is endemic.
Tuesday,	16th August, 1949 ...	Maternity and Child Welfare.
Wednesday,	17th August, 1949 ...	Health of the School Child.
Thursday,	18th August, 1949 ...	Tuberculosis.
Friday,	19th August, 1949 ...	Malaria & Agriculture: Food Production and Nutrition emphasized.
Saturday,	20th August, 1949 ...	General Celebrations.

Special Activities

During 1949 the following special activities were also carried out:

(1) *B. C. G. Campaign:*

In connection with the visit of the Scandinavian B.C.G. Team and the inauguration of the local B. C. G. Campaign:

(*a*) A conference of School Principals and Head Masters of Colombo Schools convened by the Ministry of Health.

(*b*) Issue of a special leaflet entitled "What is Tuberculosis?"

English	50,000 copies.
Sinhalese	100,000 ,,
Tamil	50,000 ,,

(*c*) Issue of a special poster re B.C.G. Vaccination.

(*d*) Display of Cinema slides re B.C.G. Campaign in all Cinemas in Colombo.

(*e*) Press Articles.

(2) *Filariasis Campaign:*

Following the visit of Dr. M. O. T. Iyengar, Filariasis expert of the World Health Organization:

(a) A public meeting presided over by the Hon. Mr. S. W. R. D. Bandaranaike, Minister of Health and Local Government, was held at the Filariasis Clinic, at Dehiwela, when the new drug "Hetrazan" was distributed free to patients by the Hon. Minister.

(*b*) Issue of new leaflets and posters.

(*c*) Press Articles.

(3) *V. D. Campaign:*

Dr. George M. Leiby, Professor of Internal Medicine and Syphilology of the University of California and V. D. Consultant to the W. H. O., visited the Island during the latter part of the year and gave several lectures in Colombo, to Medical Officers doing V. D. work, on modern methods of treatment. Publicity was given to the visit by means of:

(*a*) Press Articles.

(*b*) By the issuing of a pamphlet entitled "Modern Concepts of V. D. Control".

Distribution of Health Literature

The following Health propaganda pamphlets were issued to the public in English, Sinhalese and Tamil during the year:—

Leprosy	23,689
Small-pox and Vaccination	29,960
Filariasis	20,590
Rabies	18,826
Cancer	22,674
Advice to Expectant Mothers	31,284
Infantile Convulsions	60,111
Choice of Food	29,294
Plague	70,106
Venereal Diseases (Six different kinds)	155,828

XIV—WELFARE WORK

Welfare work among the employees of this department was considered in 1947, but no progress was made as there was no suitable officer to carry out this work.

In 1948 a Fellowship was offered by the United Nations Social Affairs Division for an Officer of the Department to study welfare work in the United Kingdom. Early in 1949 the present Welfare Officer was selected for this Fellowship. On April 6, 1949, he left for the United Kingdom via Geneva to study Staff Welfare work in those countries. The field of studies in those countries covered the following:—

(*a*) Staff welfare work in Industries;
(*b*) Staff welfare work in Hospitals; and
(*c*) Staff welfare work in Government Departments.

On October 5, 1949, the first Welfare Officer of this Department was appointed on the return of the officer who had been awarded the Fellowship.

Staff.—The total staff of the Medical Department for whom provision has been made in the estimates for 1949-50 is 18,077. There is only one Welfare Officer of the Department to attend to the welfare of this whole staff.

The minimum staff required in this branch to show any results will be one Chief Welfare Officer, six Welfare Officers under him; one each in Colombo, Galle, Jaffna, Kurunegala, Ratnapura and Badulla, and a clerk-typist to work in Colombo. A scheme has been formulated to recruit the required personnel on a three-year plan and the Treasury has been addressed on this subject.

Accommodation.—The accommodation available now will not be sufficient when additional hands are recruited to this branch. It is necessary that there should be a separate room for the Welfare Branch so that any employee in the Department may come into this section at any time of the day to discuss with the Welfare Officer any confidential matters.

Work Done.—During the three months following the appointment of a Welfare Officer special attention was paid to the formation of Co-operative Welfare Societies in all the big Institutions and running of canteens and stores through these Societies for the benefit of their members. During this period eight Co-operative Welfare Societies have been organized. These Societies will cater for the welfare of the employees of these Institutions and some of their activities are:—

(*a*) Opening of canteens and provision stores on a co-operative basis.
(*b*) Providing facilities for indoor and outdoor games for its members.
(*c*) Providing of reading rooms and libraries.

The following are the Institutions in which Co-operative Welfare Societies have been formed during this period.

1. General Hospital.
2. Office of the Superintendent, Anti-Malaria Campaign and the Office of the Sanitary Engineer.
3. Nurses Training School.
4. T. B. Hospital, Welisara.
5. Chest Hospital, Ragama.
6. Health Unit, Kalutara.
7. Quarantine Department.
8. The Head Office, Secretariat.

Kurunegala Health Unit Welfare Society.—A well organized Welfare Society which is doing very useful work on all the three branches mentioned earlier, with a debt redemption scheme in addition, is functioning at the Kurunegala Health

Unit for the last three and a half years. This Society today is copied as a model by most other Departments interested in the welfare of the staff. Some of the activities of this Society are:—

(1) Running of a canteen where all requirements of food and non-alcoholic drinks are served to members from 6 a.m. to 5 p.m.
(2) Erection of a building through its own efforts to run this canteen.
(3) Organizing of a debt redemption scheme for its members, mainly the minor staff.
(4) Provision of outdoor games, e.g. Tennis, Volley Ball and Badminton to its members.
(5) Erection of a pavilion and club house and equipping same at a cost of over Rs. 3,000.
(6) Provision of indoor games, e.g. Ping-pong, Dart, Carrom, Draughts, and so on for the members.
(7) Provision of a reading room where Sinhalese, Tamil and English newspapers are made available to members.
(8) Running of a Hostel for learners, students and Post-graduate students who come to the Malaria Field Training Centre for short periods of training.
(9) Provision of a model kitchen garden, compost pits, water-seal latrine and boiled cooled water to service as a model, for members as well as the public to copy.
(10) Food production activities, e.g. planting of yams, leaf-vegetables and fruit trees (orange, mangoes and plantains).
(11) Organizing of functions at which all members meet and enjoy at least once a month.
(12) Arranging and taking part in sports meets, e.g., Tennis and Volley Ball.

Dining Rooms and Meals for Minor Employees.—In most institutions of the Department there is no place set apart for the minor employees to take their meals. This is a defect which it is hoped will be remedied with the least possible delay.

A concession has been made to minor employees to obtain their meals from the hospital at the rate of Rs. 12 per month for a full day's meals and Rs. 6 per month for half day's meals, but it has led to a lot of abuses, and complaints from patients and those interested in them that the patients' diets are being pilfered by the attendants. This can be done away with if the institutions are provided with satisfactory canteen and dining rooms. The cost of the meals supplied to the minor employees far exceeds the amount charged from them for the supply of meals. Under these circumstances it will not be a loss to Government if the supply of meals to the minor employees is stopped and they are given a reasonable allowance in lieu of the contribution made by Government to supply their meals. The benefits in this system if adopted are:—

(*a*) There will be no room for the present allegations.
(*b*) Canteens proposed to be opened in all institutions will have sufficient business to operate successfully.

Hours of Work.—An eight-hour day and a six-day week for all employees as far as practicable should be the aim. Labourers and attendants are the categories that are most affected by the lack of this privilege. They work for 12 hours a day for which they are paid an allowance of Rs. 10 a month to cover the four hour overtime daily. It should be possible to arrange an eight to eight and a half hour day for the labourers and attendants if arrangements are made for all labourers and attendants to work full strength in the mornings and half strength in the afternoons in two shifts as is being done in the case of nurses. The minor employees themselves would prefer to forego the overtime allowance of Rs. 10 per month if their hours of duty could be reduced to eight a day. With the saving on overtime additional hands could be employed if necessary. It is not possible to make any alterations in the present arrangement for night duty till quarters are provided for minor employees on the premises.

XV—FINANCE

The total expenditure during the year under review under departmental and other votes in respect of the Health Services of the Island amounted to Rs. 62,039,813 as against a sum of Rs. 55,524,105 expended in the preceding year. The expenditure represents nearly 10 per cent of the Island's total revenue and a little over 11 per cent. of the Island's total expenditure. The revenue earned by the department during the same period is Rs. 3,203,444.

The expenditure incurred on the Health Services since 1931 up to the present time is seen from the table below. The figures represent only the expenditure from departmental votes and do not take into account expenditure from Loan Funds, P. W. D. The Treasury Votes. The full expenditure from all sources since 1944 is given in Table No. CVI.

TABLE—CV

Year	*Amount*	*Year*	*Amount*
1931-32 ...	9,805,528	1940-41 ...	13,430,141
1932-33 ...	9,275,559	1941-42 ...	14,325,466
1933-34 ...	9,442,594	1942-43 ...	15,661,820
1934-35 ...	11,720,362	1943-44 ...	18,195,746
1935-36 ...	10,951,753	1944-45 ...	21,621,383
1936-37 ...	11,084,912	1945-46 ...	28,663,401
1937-38 ...	12,079,164	1946-47 ...	37,201,294
1938-39 ...	12,918,695	1947-48 ...	51,659,938
1939-40 ...	12,929,756	1948-49 ...	57,041,147

(Exclusive of Expenditure from Loan Funds, P. W. D. Votes
and Treasury Votes)

It will be observed that the largest items of expenditure are under Personal Emoluments, Cost of Living Allowance, Diets, Drugs and Equipment. These items cover nearly 5/6ths of the total expenditure. It is inevitable that these items of expenditure should be heavy in order to maintain the efficiency of the existing institutions as well as to keep pace with the new ones that were opened during the year. The expenditure on the Prevention and Control of Malaria and other infectious diseases has been less than the previous year due to the supplier's difficulty in providing the full quantity of D. D. T. The other item where a noticeable drop in expenditure is observed is that under Construction of Rural Hospitals. This is due to fewer such hospitals being constructed in the year.

(For Table CVI see page 172)

The revenue earned by the department since 1944 is shown in Table CVII. It is about one-twentieth of the total expenditure. It is the accepted policy of the Government that the Health Services should be free and hence the number of beds for paying patients is very limited in most of the institutions. Further the charges levied in the paying wards as well for other medical services are very nominal.

(For Table CVII see page 173)

TABLE CVI

Comparative Statement of Expenditure from 1944/45 to 1948/49

	Item	1944/45	1945/46	1946/47	1947/48	1948/49
1.	Personal Emoluments	9,349,792	11,584,279	18,143,609	19,096,942	20,576,106
2.	Cost of Living Allowance	3,526,287	5,506,643	8,839,042	10,268,276	11,252,416
3.	Diets	6,267,273	7,579,340	8,246,512	10,168,228	11,303,790
4.	Drugs, Dressings, Disinfectants and Instruments	1,686,333	1,535,982	3,352,665	3,529,456	4,546,922
5.	Equipment	1,059,972	1,823,530	1,914,934	2,765,726	3,425,841
6.	Prevention and Control of Malaria and other Infectious Diseases	697,879	1,893,747	2,532,540	2,575,930	1,568,360
7.	Travelling	898,528	1,006,770	1,196,817	1,335,239	1,511,747
8.	Grants including rebates payable under the Medical Wants Ordinance (Cap. 176)	465,884	521,676	627,660	489,672	885,141
9.	Transport	261,368	410,918	330,910	410,159	485,483
10.	Laundry Charges	276,531	322,541	336,874	390,152	420,970
11.	Electric Current	172,185	195,367	244,823	279,370	365,643
12.	Rent	108,361	117,755	123,251	146,491	154,953
13.	Holiday Warrants	58,465	107,526	134,985	187,162	265,285
14.	Uniforms	48,687	59,145	73,960	90,413	142,700
15.	Stationery, Office Furniture and Office Requisities	35,662	38,310	59,668	106,128	104,773
16.	Honorarium to Volunteers for Blood Transfusion	16,570	20,000	18,410	19,570	18,430
17.	Propaganda	—	30,720	27,989	20,478	29,171
18.	Occupational Therapy	5,067	6,893	9,276	10,986	10,336
19.	Incidental expenses and other items	67,913	70,601	136,764	153,487	217,608
	Buildings					
1.	Construction of Rural Hospitals	316,285	1,443,423	1,642,784	1,001,647	331,298
2.	Construction of Maternity Homes	48,207	191,702	621,606	538,180	579,159
3.	Construction of Dispensaries	—	—	5,992	97,847	455,778
4.	Construction of New Hospitals	2,653	16,439	316,450	441,961	1,637,551
5.	Additions and Improvements to existing buildings	91,685	234,425	679,517	747,024	1,202,263
6.	Maintenance of buildings	215,753	308,072	570,658	653,581	548,089
	Total	25,677,340	35,025,804	50,187,696	55,524,105	62,039,813

(Inclusive of expenditure from Loan Funds, P. W. D. Votes and Treasury Votes.)

TABLE CVII

Comparative Statement of Revenue Classified under Head Medical and Sanitary Services from 1944/45 to 1948/49

Item	1944/45	1945/46	1946/47	1947/48	1948/49
1. Hospital and Dispensary receipts	916,369	1,053,699	1,002,598	1,028,725	1,015.785
2. Sales of drugs, &c.	101,910	221,273	57,416	36,161	63,432
3. Opium sales	51,324	47,756	46,620	44,665	33,039
4. Sales of drugs &c., under Medical Wants Ordinance	21,035	43,618	17,685	404	4,876
5. Export duties under the Medical Wants Ordinance	2,004,474	2,101,451	1,805,106	2,061,552	1.928,927
6. Charges for maintenance and visits under the Medical Wants Ordinance	119,329	117,104	120,498	116,953	120,022
7. Bacteriological fees	16,447	24,980	47,530	10,820	14,368
8. Fees, Apothecaries, Midwives, &c.	10,282	2,573	5,223	7,652	13,494
9. Sundries	2,510	1,856	7.268	6,085	9,501
Total	3.243,680	3,614,310	3,109,944	3,313,017	3,203,444

XVI—VISITORS—1949

No.	*Duration of Visit*	*Name of Visitor*	*Agency Represented, if any*
1.	18. 1.49–23. 1.49	Dr. S. K. Svendsen	World Health Organization
2.	5. 2.49–10. 2.49	Dr. Richmond K. Anderson	Rockefeller Foundation
3.	4. 3.49–12. 3.49	Dr. J. E. Busvine	London School of Hygiene and Tropical Medicine
4.	7. 3.49–30. 8.49	Dr. S. Norstedt	World Health Organization
5.	7. 3.49–30. 8.49	Miss E. Herdenberg	World Health Organization
6.	9. 3.49–30. 8.49	Miss A. Kroyer	World Health Organization
7.	11. 3.49–17. 3.49	Dr. Edgar Mayer (and Party)	World Health Organization
8.	12. 4.49–15. 4.49	Dr. Johs Holm	World Health Organization (UNICEF)
9.	12. 4.49–15. 4.49	Dr. S. K. Svendsen	World Health Organization (UNICEF)
10.	5. 6.49– 1. 8.49	Dr. M. O. T. Iyengar	World Health Organization
11.	4. 7.49–11. 7.49	Dr. Mas Marjitno	World Health Organization
12.	4. 7.49–11. 7.49	Dr. A. G. H. Kandouw	World Health Organization
13.	8. 7.49–	Dr. Law (Eye Specialist)	
14.	14. 8.49–16. 8.49	Dr. S. K. Svendsen	World Health Organization
15.	18. 9.48–28. 9.49	Dr. B. A. Rao	Rockefeller Foundation
16.	20. 9.49–21. 9.49	Dr. K. K. P. Narasinga Rao	Food and Agricultural Organization
17.	3.10.49– 6.10.49	Dr. M. Eliot	World Health Organization
18.	3.10.49– 6.10.49	Mr. Moore	World Health Organization
19.	9.10.49–28.10.49	Mr. V. W. Fenn	UNICEF
20.	16.10.49–28.10.49	Dr. (Miss) Orkney	UNICEF
21.	31.10.49– 9.11.49	Prof. G. M. Leiby	World Health Organization
22.	9.11.49–11.11.49	Dr. S. F. Chellappah	World Health Organization
23.	14.11.49–17.11.49	Dame Catherine Watt	United Kingdom, Ministry of Health
24.	20.11.49–27.11.49	Dr. C. V. Natarajan	Rockefeller Foundation
25.	8.12.49–13.12.49	Dr. J. B. McDougall	World Health Organization
2 .	13.12.49–17.12.49	Dr. S. Lauritzen	World Health Organization
27.	13.12.49–17.12.49	Mr. John Western	World Health Organization

BUREAU OF HYGIENE & TROPICAL DISEASES
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